



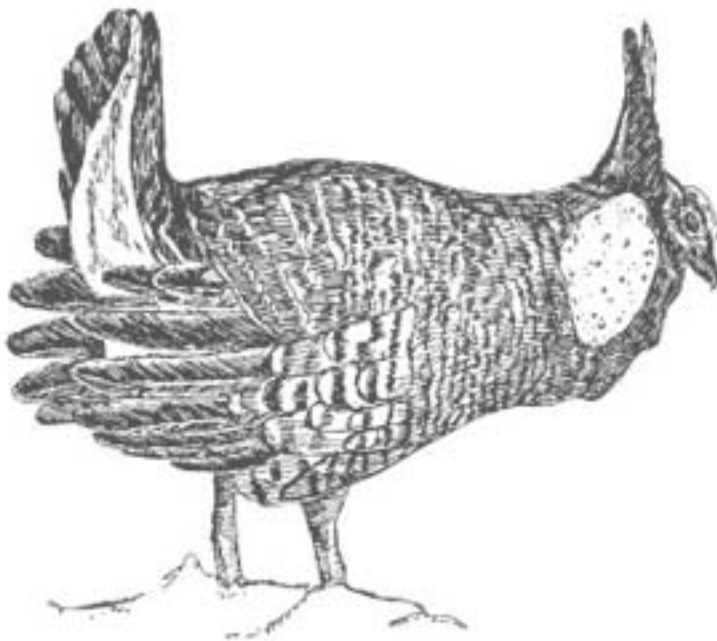
**U.S. Department of the Interior
Bureau of Land Management**

**Pecos District Office
Roswell, New Mexico**



Special Status Species Resource Management Plan Amendment

Analysis of Management Situation



January 2005

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Chapter 1

CHAPTER 1 – INTRODUCTION

PURPOSE AND NEED

The BLM intends to prepare a Resource Management Plan Amendment (RMPA) with an associated Environmental Impact Statement (EIS) for the Carlsbad and Roswell Field Offices. This RMPA will amend two RMPs: Carlsbad 1988 (as amended) and Roswell 1997 (as amended). The purpose of the amendment is to respond to changing resource conditions and respond to new issues in the context of habitat management for special status species on public land in the Planning Area administered by the Field Offices. The RMPA will establish new land-use planning decisions to address issues identified through public scoping and, where appropriate, will incorporate decisions from the existing RMPs.

The amendment is needed to keep the RMPs current with the resource conditions and the habitat needs of special status species. The EIS accompanying the amendment will address the impacts of the measures needed to maintain and enhance the habitat that supports the special status species. The special status species of concern within the Planning Area are the lesser prairie chicken and the sand dune lizard. The Planning Area contains currently occupied and historic habitat for both species. Historic range for both species occurs outside the Planning Area; however, the BLM has no authority over these lands and is not authorized to permit Federal actions on these lands.

PURPOSE OF ANALYSIS OF THE MANAGEMENT SITUATION

The purpose of this report is to analyze the inventory data and other information available to determine the ability of the Planning Area to respond to identified issues and opportunities. The analysis provides the basis for formulating reasonable alternatives, including the types of resources for development or protection (see 43 CFR 1610.4-4).

This report will describe the current conditions and trends of the resources and the uses/activities in the Planning Area. This report will also describe the status, or present characteristics and condition of public land, including the condition of individual components such as soil, water, vegetation, and wildlife habitat; and the relative values and scarcity of resources. Social and economic conditions are included to provide an understanding of how people, communities and economies interact with the ecosystem.

This report will be complete when the public comments received during the Scoping period are incorporated.

GENERAL DESCRIPTION OF THE PLANNING AREA, GEOGRAPHIC SCOPE AND RESOURCES/PROGRAMS

The Planning Area for the RMPA covers about 1.85 million acres, which includes 847,491 acres of BLM-administered public land with an additional 298,000 acres of Federal mineral estate (see Map 1-1 for location). The Planning Area is located entirely in southeast New Mexico in Chaves, Eddy, Lea, and Roosevelt Counties. Public land comprises about 46 percent of the Planning Area, private land about 37 percent and State trust land about 17 percent. The Planning Area includes all surface and subsurface (mineral estate) lands managed by BLM. About 72 percent of the Federal mineral estate is currently under lease

for oil and gas development and about 77 percent of the unleased Federal mineral estate is managed by the Roswell Field Office.

The BLM-administered public land within the Planning Area is currently managed under interim management guidelines issued on August 5, 2004. (The Interim Management Policy discussion is described in Chapter 4 of this document.) Interim management is in accordance with the decisions in the 1988 Carlsbad RMP, as amended, and the 1997 Roswell RMP, as amended. BLM will continue to manage the land in accordance with the interim management guidelines until the RMPA is completed and a Record of Decision is signed.

KEY FINDINGS

- Actions authorized by BLM in the Planning Area affect the habitat and populations of special status species.
- Current management decisions and prescriptions are not adequate to reduce the threats to these species.
- Due to the age of the Carlsbad RMP, the portion of the Planning Area managed by the Carlsbad Field Office does not comply with current guidance with regards to off-highway vehicle (OHV) use.
- The Roswell Field Office has not yet completed the route designation planning for OHV use in its portion of the Planning Area.
- Implementation of the New Mexico Standards for Rangeland Health should enhance the habitat for special status species within the Planning Area.

INSERT MAP 1-1 GENERAL LOCATION MAP HERE!

Chapter 2

CHAPTER 2

AREA PROFILE: CONDITION AND TREND OF RESOURCES AND RESOURCE USES

INTRODUCTION

This chapter will describe the area profile, which is the existing condition of the resources, resource uses, and other features of the Planning Area. The information will become the basis for the Affected Environment chapter of the RMPA/EIS.

RESOURCES

Physiography and Topography

The Planning Area consists of the broad high plains east of the Pecos River below the escarpment known as the Caprock. Most of this area consists of sandy plains and sand dunes that slope to the west. Outside the sand dunes, the topography generally consists of slopes less than 10 percent. The area contains no perennial streams, and the only bodies of water are ephemeral playas.

Climate

The climate in Planning Area is an arid to semiarid continental climate with mild winters and hot summers. Average annual precipitation ranges from 10 to 16 inches. Over half the yearly precipitation falls during July, August, and September, when moist air masses move into the region from the Gulf of California. Fall, winter, and spring are relatively dry seasons.

The average annual temperature is 62°F. Maximum temperatures average 92°F in July, although temperatures more than 100°F are frequent. Minimum temperatures average 28°F in January, although temperatures do occasionally dip below 0°F. The average growing season ranges from 220 days in the eastern plains.

Wind speeds average about 12 mph with the spring months of March through May being the windy season. Dry, gusty winds, predominately from the west, may exceed 50 mph. These winds, blowing across dry soils, occasionally cause severe afternoon dust storms.

Lands and Realty

The Bureau of Land Management's (BLM) lands and realty program provides for land use authorization, acquisition, use, disposal, and adjustment of land resources and maintains historic records for these ownership transactions. Some of the primary facets of the program are outlined below.

Rights-of-Way (ROWs)

The ROW program is the most active portion in terms of the number of cases processed. These existing ROWs are primarily for oil/gas related land use actions. Pipelines, oil/gas lease

roads, and electric line ROWs are the most common authorizations. Land referred to as split-estate, Federally-owned surface and private/State-owned subsurface, also require a ROW for land use authorizations. The Planning Area also has numerous communications site ROWs. These communication site ROWs include cellular telephone, paging, radio repeaters, microwave transmission, and seismograph monitoring sites.

Recreation and Public Purpose (R&PP) Actions

Under the Act of June 14, 1926, as amended (commonly known as the R&PP Act), the BLM, at its discretion, can sell or lease public land for recreational or public purposes to state and local governments and to qualified nonprofit organizations. Examples of typical uses under the Act are historic monument sites, campgrounds, schools, city and county parks, fire houses, and hospitals. The BLM will not approve a lease or conveyance made under this Act unless the public land involved is used for an established or definitely proposed project. The lessee or patentee must commit to a plan of physical development, management, and use as well as certain other requirements before a lease or patent is issued.

Leases, Permits, and Easements

Section 302 of the Federal Land Policy and Management Act of 1976 (FLPMA) provides the BLM authority to issue, at its discretion, leases, permits, and easements for the use, occupancy, and development of public land. Any use not specifically authorized under other laws or regulations and not specifically forbidden by law may be authorized under this section of FLPMA. Uses which may be authorized include residential, agricultural, industrial, and commercial, and uses that cannot be authorized under the primary ROW authorities. Some specific examples of uses authorized under this authority include commercial filming, equipment storage sites, and ski resorts. Section 507 of FLPMA, rather than Section 302, is the only authority for land use authorizations for other Federal agencies.

Withdrawals

A withdrawal is a formal action that sets aside, withholds, or reserves Federal land by statute or administrative order for a specific use or purpose. A withdrawal accomplishes one or more of the following:

- Transfers total or partial jurisdiction of Federal land between Federal agencies.
- Segregates (closes) Federal land to operation of all or some of the public land laws and/or mineral laws.
- Dedicates Federal land for a specific public purpose.

Withdrawals are established for a wide range of public purposes, including military reservations, administrative sites, National parks, reclamation projects, recreation sites, and power site reserves. There are three major types of formal withdrawals: (1) Administrative withdrawals - those made by the President, the Secretary of the Interior, or other authorized officer of the executive branch of the Federal government, (2) Congressional withdrawals - legislative withdrawals made by Congress, and (3) Federal Power Act or FERC withdrawals - power project withdrawals established under the authority of the Federal Power Act of June 10, 1920.

Land Classification

A land classification is a process required by law for determining the suitability of BLM public land either for certain types of disposal or lease under the public land laws or for retention under multiple-use management.

Land Acquisition

Acquisitions via exchange, purchase of land and easements, or donation are important components of the BLM's land management strategy. The agency acquires land when it is in the public interest and consistent with approved land use plans. The BLM's land acquisition program is designed to:

- Improve management of natural resources through consolidation of public, State trust, and other Federal lands where agencies have compatible land management missions;
- Secure key property necessary to protect endangered species, promote biological diversity, increase recreational opportunities, enhance wildlife habitat, provide access to public waters and public land, and preserve archaeological and historical resources; or
- Implement specific acquisitions authorized by Acts of Congress by acquiring minimal non-Federal lands or interest in lands.

Exchanges: Public land may be exchanged by the BLM for lands owned by corporations, individuals, State and local governments, or other legal entities legally capable of holding title to and conveying land. Except for those exchanges that are Congressionally mandated or judicially required, exchanges are voluntary and discretionary transactions with willing landowners that serve as a viable tool for the BLM to accomplish its goals and mission. The lands to be exchanged must be of equal monetary appraised value and located within the same State. Exchanges must also be in the public interest and be in conformance with applicable BLM land use plans.

Purchases and Donations: The BLM has the authority to purchase land or interests in land. Purchase is not as widely used as exchange to acquire fee title to non-Federal lands. However, the agency does occasionally purchase non-Federal lands to acquire key natural resources or to acquire legal ownership to land which enhances the management of existing public land and resources. The primary funding authority for these purchases is the Land and Water Conservation Act. Funding is congressionally limited to specific project areas.

The BLM also occasionally receives gifts (donations) of land or interests in land where an entity elects not to receive the market value for the interests being conveyed.

Sales

The BLM's general sale authority for public land is Section 203 of FLPMA (1976). However, the agency does not offer much land for sale. FLPMA requires that public land be retained in public ownership, unless, as a result of land use planning, disposal of certain parcels is warranted. Also, tracts of land that are designated in BLM land use plans as potentially available for disposal are more likely to be conveyed out of Federal ownership through a sale rather than an exchange. Public land must be sold at not less than fair market value and meet the very specific sale criteria of FLPMA. Public land proposed for sale generally has low resource value.

Geology and Minerals

Fluid Minerals

The fluid minerals program provides opportunities for leasing, exploration, and development of oil and gas resources while protecting other resource values. Land is available through a leasing process for competitive and noncompetitive leases.

The public land and Federal mineral estate in the Planning Area are available for orderly and efficient development of mineral resources. All mineral leases are issued with needed restrictions to protect the environment from releases of hazardous, toxic, and waste materials.

Stipulations to minimize the impacts that oil and gas operations may cause on other land resources, uses, and users are placed on oil and gas parcels in advance of lease issuance.

Stipulations pertaining to prevention and mitigation of releases and compliance with applicable Federal, state, and local hazardous materials and safety regulations are also required.

Currently, the BLM New Mexico State Office holds four competitive oil and gas lease sale auctions a year. The Competitive Oil and Gas Lease Sale Notice comprises land nominated for inclusion in a sale by entities interested in leasing the oil and gas rights, land under the jurisdiction of other surface management agencies, or Bureau motion land.

About 72 percent of the Federal mineral estate is currently under lease for oil and gas development. There are about 3,514 oil and gas leases (see Map 2-1, Leasing) and about 11,230 wells (see Map 2-2, Well Data) in the Planning Area.

Salable Minerals

The salable minerals program provides opportunities for exploration and development of salable resources while protecting other resource values.

The Planning Area is open to the sale of mineral materials. Sales are considered on a case-by-case basis. Stipulations to protect important resource values will be based on interdisciplinary review and analysis of individual proposals. Stipulations to minimize the impacts that operations may cause on other land resources, uses, and users are placed in advance of mineral sale.

Stipulations pertaining to prevention and mitigation of hazardous material releases and compliance with applicable Federal, State, and local hazardous materials and safety regulations are required.

Solid Leasables

All public land would be open for the leasing of solid minerals, except those identified otherwise.

Management objectives for non-energy leasable minerals would be to continue to keep land available to leasing as necessary while maintaining important environmental values.

All land would be open to leasing with the applicable standard stipulations which are taken to prevent adverse environmental impacts to the environment and to minimize damage to public health and safety.

Lands requiring protection such as recreation areas, specially designated areas, and withdrawals shall remain closed to leasing or until such time as the areas or withdrawals are terminated.

In general, there are no known commercial deposits of the subject minerals within the Roswell Field Office Area. However the potential for a commercial deposit to be discovered does exist. The Roswell area has had prospecting permits for sulfur in the past.

The portions of the 497,000-acre potash area open to future leasing for oil and gas would continue to be leased with the Potash Stipulation (see Map 2-3). Generally, the Potash Stipulation allows drilling for oil and gas if the drilling does not interfere with potash mining, does not create undue waste of potash, and does not create a hazard. In abandoning wells drilled under the stipulation, infiltration of oil, gas or water into potash deposits, mines or workings must be prevented. Lease notices would be used to alert lessees to potential special requirements on exploration, drilling or production. Lease notices covering protection of potential cave or karst areas, protection of threatened or endangered or sensitive plant or animal species, and the use of the Alkali Lake and Hackberry Lake OHV areas would remain in use. Additional lease notices would be developed as needed.

Future increases in commodity prices with a corresponding increase in demand could allow some deposits to become economic. Similarly improvements in mining technologies could have the same effect. For most deposits though, deposits of significantly greater potential are known to exist outside of the Roswell area and would likely be developed in response to demand before their counterparts in the Roswell area. Areas with high potential which are located to roadways, and developed areas should be kept open for development.

Coal Leasing

Coal leasing and development is not an issue for this document. The coal in the Planning Area has either unknown or low development potential in the foreseeable future. This does not mean, however, that coal exploration, leasing and development are incompatible with this Plan. Coal exploration would be allowed under the Surface Use and Occupancy Requirements adopted in this RMPA. If an application for a coal lease is received in the future, an appropriate land-use and environmental analysis, including the coal screening process, would be conducted to determine whether or not the coal areas applied for are acceptable for development and for leasing consideration. The RMP would be amended as needed.

The Federal coal land in the Planning Area is not within a designated coal production region. Federal coal leasing in areas outside of designated regions may be considered apart from the competitive leasing process set out in 43 CFR 3420. In this situation, coal leasing is done on a case-by-case basis called "Leasing on Application," under the appropriate provisions of 43 CFR 3425. The sale and issuance of Federal coal leases under these provisions is still done through a competitive bidding process.

Alternative Energy

In February 2003, the Departments of Energy and the Interior released the report, "Assessing the Potential for Renewable Energy on Public Land." The report weighed factors for producing energy from concentrated solar power (CSP), photo-voltaic (PV), wind, biomass, and geothermal facilities. The report indicates the potential for producing energy from biomass and geothermal resources is low in southeast New Mexico and the Planning Area. The report indicates the potential for producing wind energy in the Planning Area is low to fair. The report indicates the potential for CSP and PV in the Planning Area are good, with between 5.5 to 6.5 kWh/m²/day (kilowatt hour per square meter per day) on average. This report can be viewed and downloaded at www.nrel.gov/docs/fy03osti/33530.pdf.

Since the potential for geothermal energy and biomass sources are low, this document will discuss CSP, PV, and wind energy on public land.

Soils

Soils within the Planning Area are affected by vegetation, geology, wind erosion, and water erosion. Human impacts include livestock grazing management, oil and gas development, recreational use, and brush control treatments. Soils within the Planning Area are located east of the Pecos River and are mostly level with sandy textures and high concentrations of calcium carbonate in the substratum. These sandy soils are highly susceptible to wind erosion. Wind action has produced an undulating topography with frequent dunes. Areas of steep rocky soils and gypsum soils are also present. The Gyp Complex soils are highly susceptible to erosion. Once disturbed, these gypsum soils are extremely difficult to re-vegetate due to their high salt content and the frequent droughts in the region. Detailed information on soils in the Roswell and Carlsbad Field Office Areas is available in the Soil Survey of Chaves County, N.M. Northern Part; Soil Survey of Chaves County, N.M. Southern Part (SCS 1980); Soil Survey of Lea County, N.M. (SCS 1974); and Soil Survey of Eddy Area N.M. (SCS 1971).

Water Resources

Surface water within the Planning Area is affected by geology, precipitation, and water erosion. Human impacts include livestock grazing management, oil and gas development, recreational use, and brush control treatments. Surface water within the Planning Area is located in ephemeral streams, ephemeral springs, ephemeral playas, and stock tanks. Water quality impaired streams are not presently found within the Planning Area (303d of the Clean Water Act).

Groundwater within the Planning Area is affected by geology and precipitation. Human impacts include livestock grazing management, oil and gas development and possible impacts from brush control treatments. Groundwater within the Planning Area can be obtained from groundwater aquifers located within the Rustler, Castile, Tansill, Yates, Seven Rivers, Queen, Grayburg, Artesia, Ogallala, Capitan and San Andres Limestones, Glorieta and Santa Rosa Sandstones, and the Dockum Group. The depth to groundwater varies from 1 foot down to depths of 200 feet or greater throughout the Planning Area.

Air Quality

Human impacts on air quality include livestock grazing management, oil and gas development, recreational use, brush control treatments, pollution from exhaust emissions, chemical odors, and dust that would be caused by the motorized equipment used to construct the access road, well pad, and by the drilling rig that will be used to drill the oil and gas wells.

Vegetation

Vegetation within the Planning Area is affected by soil type, temperature, amount, and timing of precipitation, elevation, topographic position, and human impacts. Human impacts include livestock grazing management, oil/gas development, recreational use, and brush control treatments. The northern portion of the Planning Area falls within the Southern High Plains (HP) and Pecos-Canadian Plains and Valleys (CP) Major Land Resource Areas (MLRAs), while the southern portion is within the Southern Desertic Basins (SD) MLRA. The grass component of the HP and CP areas is dominated by bluestems and gramas, while that of the SD area is made up of dropseeds and threeawns. The three major vegetative communities within the Planning Area are the grassland community, shinnery oak-dune community, and the mesquite grassland community. The mesquite grassland community is a modification of the mixed desert shrub community, and only includes those plants found within the Planning Area.

Non-Native and Invasive Species

One of the greatest impacts on the maintenance of healthy communities is the rapid spread of invasive, non-native weeds. These invasive weeds are very aggressive and have the ability to out-compete native plant communities. Severe, extensive, and often permanent degradation frequently results. While it is very important to control existing infestations, the most effective and economical weed management technique is to prevent weed spread. Weeds can easily be spread by a wide variety of activities BLM conducts or authorizes. Furthermore, weeds frequently thrive when land is disturbed.

Of the weeds listed on the Noxious Weed List for the State of New Mexico, those of immediate concern to the BLM are African rue (*Peganum harmata*), Malta starthistle (*Centaurea melitensis*), yellow starthistle (*Centaurea repens*), Russian knapweed (*Acroptilon repens*), and saltcedar (*Tamarix ramosissima*). These species have invaded public land within the Planning Area, mainly along oil/gas lease roads, on oil/gas pads, and along pipeline and power line routes.

Wildlife

The BLM wildlife program is responsible for the management of wildlife habitat on public land to ensure wildlife populations that depend upon that habitat are sustainable for future generations. Management of wildlife populations is the responsibility of the New Mexico Department of Game and Fish (NMDGF). The lead for management of migratory and federally listed threatened, endangered and proposed species is the U.S. Fish and Wildlife Service (USFWS).

The overall wildlife objective is to manage habitats on public land for the conservation and rehabilitation of fish, wildlife, and plant resources consistent with multiple use management principles. Wildlife habitat within the Planning Area is affected by numerous variables.

Standard Habitat Sites and Features

Wildlife within the Planning Area is associated with specific habitat sites or features as identified by the BLM. These standard habitat sites (SHS's) and features are grouped according to the vegetation type, landforms, soil types, and specific habitat niches that are critical for species survival. The SHS's correspond to the vegetation types presented in the Vegetation Section of this document and in Table 2-1.

| TABLE 2-1 VEGETATION TYPES CORRESPONDING TO SHSs | |
|-------------------------------------------------------|----------------------------------------------------------------------------------|
| VEGETATION TYPE | SHS |
| Grasslands | Playas Short grass prairie Mid grasslands Tall grasslands |
| Shinnery oak dune | Shinnery flats Shinnery dune Shinnery dune/Blowouts Sand sage shrubland |
| Mixed desert shrub | Mesquite grasslands Escarpment shrubland |
| SOURCE: Roswell RMP, 1997 and Roswell East EIS, 1979. | |

Big Game

Big game species that occur within the Planning Area are desert mule deer (*Odocoileus hemionus*), pronghorn antelope (*Antilocapra americana*), javelina (*Dicotyles tajacu*), and mountain lion (*Felis concolor*). All species can be found throughout the Planning Area; however, mule deer tend to reside more commonly within the shinnery oak dune country and the Caprock escarpment. Pronghorn antelope utilize the prairie grasslands and will frequent the shinnery oak dune habitats. Javelinas prefer the mixed desert shrub or mesquite grasslands community around Carlsbad, but have been found farther north towards Kenna utilizing shinnery oak dune habitat. There have been confirmed reports and occasional sightings of mountain lions within the mesquite grasslands, shinnery oak dune and the Caprock escarpment of the Planning Area.

Small Game

Small game species occurring within the Planning Area include scaled quail (*Callipepla squamata*), mourning dove (*Zenaidura macroura*), and occasionally bobwhite quail (*Colinus virginianus*). All of these species occupy the various vegetation types with some species preferring a denser shrub component. Scaled quail is an opportunistic feeder and is reliant upon insects as a food source, particularly during nesting and juvenile periods. Population levels for all small game bird species fluctuate depending in part on precipitation. Black-tailed jackrabbit (*Lepus californicus*) and desert cottontail (*Sylvilagus audubonii*) are common throughout the area and can be found in all vegetation communities.

Amphibians and Reptiles

According to "Amphibians & Reptiles of New Mexico" dated 1996, a total of 10 amphibians and 31 species of reptiles are known to occur within the Planning Area.

| <p align="center">TABLE 2-2 AMPHIBIANS AND REPTILES OCCURRING OR POTENTIALLY OCCURRING IN THE PLANNING AREA</p> | |
|------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| Common Name | Scientific Name |
| Tiger Salamander | <i>Ambystoma tigrinum</i> |
| Couch's Spadefoot | <i>Scaphiopus couchii</i> |
| Plains spadefoot | <i>Spea bombifrons</i> |
| New Mexico spadefoot | <i>Spea multiplicata</i> |
| Barking frog | <i>Hylactophryne augusti</i> |
| Great plains toad | <i>Bufo cognatus</i> |
| Green toad | <i>Bufo debilis</i> |
| Plains leopard frog | <i>Rana blairi</i> |
| Ornate box turtle | <i>Terrapene ornata</i> |
| Yellow mud turtle | <i>Kinosternon flavescens</i> |
| Collared lizard | <i>Cryptophytus collaris</i> |
| Greater earless lizard | <i>Cophosaurus texanus scitulus</i> |
| Lesser earless lizard | <i>Holbrookia maculata</i> |
| Texas Horned Lizard | <i>Phrynosoma cornutum</i> |
| Round-tail horned lizard | <i>Phrynosoma modestum</i> |
| Sand-dune lizard | <i>Sceloporus arenicolus</i> |
| Prairie lizard | <i>Sceloporus undulatus</i> |
| Side-blotched lizard | <i>Uta stansburana</i> |
| Chihuahuan spotted whiptail | <i>Cnemidophorus exsanguis</i> |
| Checkered whiptail | <i>Cnemidophorus grahamii</i> |
| Texas spotted whiptail | <i>Cnemidophorus gularis</i> |
| Little striped whiptail | <i>Cnemidophorus inornatus</i> |
| Six-lined racerunner | <i>Cnemidophorus sexlineatus</i> |
| Western whiptail | <i>Cnemidophorus tigris</i> |
| Many lined skink | <i>Eumeces multivirgatus</i> |
| Great plains skink | <i>Eumeces obsoletus</i> |
| Texas blind snake | <i>Leptotyphlops dulcis</i> |
| Glossy snake | <i>Arizona elegans</i> |
| Western hognose snake | <i>Heterodon nasicus</i> |
| Night snake | <i>Hypsiglena torquata</i> |
| Common king snake | <i>Lampropeltis getula</i> |
| Milk snake | <i>Lampropeltis triangulum</i> |
| Coachwhip | <i>Masticophis flagellum</i> |
| Bull snake (gopher) | <i>Pituophis melanoleucus</i> |
| Longnose snake | <i>Rhinocheilus lecontei</i> |
| Ground snake | <i>Sonora semiannulata</i> |
| Plains black-headed snake | <i>Tantilla nigriceps</i> |
| Checkered garter snake | <i>Thamnophis marciauns</i> |
| Western diamondback rattlesnake | <i>Crotalus atrox</i> |
| Western rattlesnake | <i>Crotalus viridis</i> |
| Massasauga | <i>Sistrurus catenatus</i> |
| SOURCE: Roswell Field Office Database, 2004. | |

Birds

There are approximately 60 species of birds occurring or have the potential to occur within the habitat types of the Planning Area

| TABLE 2-3 AVIAN SPECIES OCCURRING OR POTENTIALLY OCCURRING IN THE PLANNING AREA | | | |
|------------------------------------------------------------------------------------|-----------------------------------|------------------------|-----------------------------------------|
| COMMON NAME | SCIENTIFIC NAME | COMMON NAME | SCIENTIFIC NAME |
| Turkey vulture | <i>Cathartes aura</i> | Brown-headed cowbird | <i>Molothrus ater</i> |
| Coopers hawk | <i>Accipiter striatus</i> | Barn swallow | <i>Hirundo rustica</i> |
| Northern harrier | <i>Circus cyaneus</i> | Verdin | <i>Auriparus flaviceps</i> |
| Rough-Legged hawk | <i>Buteo lagopus</i> | Bewicks wren | <i>Thryomanes bewickii</i> |
| Ferruginous hawk | <i>Buteo regalis</i> | Cactus wren | <i>Camppylorhynchus brunneicapillus</i> |
| Red-Tailed hawk | <i>Buteo jamaicensis</i> | Western bluebird | <i>Sialia mexicana</i> |
| Swainsons hawk | <i>Buteo swainsoni</i> | Cedar waxwing | <i>Bombycilla cedrorum</i> |
| Harris hawk | <i>Parabuteo unicinctus</i> | Loggerhead shrike | <i>Lanius ludovicianus</i> |
| Golden eagle | <i>Aquila chrysaetos</i> | Eastern meadowlark | <i>Sturnella magna</i> |
| American kestrel | <i>Falco sparverius</i> | Western meadowlark | <i>Sturnella neglecta</i> |
| Common barn owl | <i>Tyto alba</i> | Pyrrhuloxia | <i>Cardinalis sinuatus</i> |
| Western sreech owl | <i>Otus kennicotti</i> | Lark bunting | <i>Calamospiza melanocorys</i> |
| Great horned owl | <i>Bubo virginianus</i> | House finch | <i>Carpodacus mexicanus</i> |
| Burrowing owl | <i>Athene cinicularia</i> | Spotted towhee | <i>Pipilo maculatus</i> |
| Scaled quail | <i>Callipepla squamata</i> | Horned lark | <i>Eremophila alpestris</i> |
| Northern bobwhite | <i>Colinus virginianus</i> | Lark sparrow | <i>Chondestes grammacus</i> |
| Lesser prairie chicken | <i>Tympanuchus pallidicinctus</i> | Grasshopper sparrow | <i>Ammodramus savannarum</i> |
| White-winged dove | <i>Zenaida asiatica</i> | Black-throated sparrow | <i>Amphispiza bilineata</i> |
| Mourning dove | <i>Zenaida macroura</i> | Sage sparrow | <i>Amphispiza belli</i> |
| Greater roadrunner | <i>Geococcyx californianus</i> | Brewers sparrow | <i>Spizella breweri</i> |
| Common nighthawk | <i>Chordeiles minor</i> | Cassins sparrow | <i>Aimophila cassinii</i> |
| Lesser nighthawk | <i>Chordeiles acutipennis</i> | Vesper sparrow | <i>Poocetes gramineus</i> |
| Northern flicker | <i>Colaptes auratus</i> | White-crowned sparrow | <i>Zonotrichia leucophrys</i> |
| Ladder-backed woodpecker | <i>Picoides scalaris</i> | White-throated sparrow | <i>Zonotrichia albicollis</i> |
| Scissor-tailed flycatcher | <i>Tyrannus forficatus</i> | Bairds sparrow | <i>Ammodramus bairdii</i> |
| Ash-throated flycatcher | <i>Myiarchus cinerascens</i> | Killdeer | <i>Chardrius vociferus</i> |
| Says phoebe | <i>Sayornis saya</i> | | |
| Western kingbird | <i>Tyrannus vertucalis</i> | | |
| Brown thrasher | <i>Toxostoma rufum</i> | | |
| Curve-billed thrasher | <i>Toxostoma curvirostre</i> | | |
| Crissal thrasher | <i>Toxostoma crissale</i> | | |
| Sage thrasher | <i>Oreoscoptes montanus</i> | | |
| Northern mockingbird | <i>Mimus polyglottus</i> | | |
| Chihuahuan raven | <i>Corvus cryptoleucus</i> | | |
| SOURCE: Roswell Wildlife Database, 2004 | | | |

Mammals

There are approximately 43 species of mammals occurring or have the potential to occur within the habitat types of the Planning Area.

| TABLE 2-4 MAMMALS OCCURRING OR POTENTIALLY OCCURRING IN THE PLANNING AREA. | |
|-------------------------------------------------------------------------------|--------------------------------------|
| Common Name | Scientific Name |
| Cave myotis | <i>Myotis velifer</i> |
| Small-footed myotis | <i>Myotis ciliolabrum</i> |
| Townsend's big-eared bat | <i>Corynorhinus townsendii</i> |
| Pallid bat | <i>Antrozous pallidus</i> |
| Long-legged myotis | <i>Myotis volans</i> |
| Raccoon | <i>Procyon lotor</i> |
| Black-tailed prairie dog | <i>Cynomys ludovicianus</i> |
| Striped skunk | <i>Mephitis mephitis</i> |
| Hognose skunk | <i>Conopatus mesoleucus</i> |
| Coyote | <i>Canis latrans</i> |
| Swift fox | |
| Kit fox | <i>Vulpes macrotis</i> |
| Mountain lion | <i>Puma concolor</i> |
| Bobcat | <i>Lynx rufus</i> |
| Badger | <i>Taxidea taxus</i> |
| Plains pocket gopher | <i>Geomys bursarius aernarius</i> |
| Silky pocket mouse | <i>Perognathus flavus</i> |
| Hispid pocket mouse | <i>Chaetodipus hispidus</i> |
| Plains pocket mouse | <i>Geomys bursarius aernarius</i> |
| Desert pocket mouse | <i>Perognathus penicillatus</i> |
| Nelson's pocket mouse | <i>Perognathus nelsoni</i> |
| Plains harvest mouse | <i>Reithrodontomys montanus</i> |
| House mouse | <i>Mus musculus</i> |
| Cactus mouse | <i>Peromyscus eremicus</i> |
| Deer mouse | <i>Peromyscus maniculatus</i> |
| Western harvest mouse | <i>Reithrodontomys megalotis</i> |
| Northern grasshopper mouse | <i>Onychomys leucogaster</i> |
| Gray shrew | <i>Notiosorex crawfordi</i> |
| Ord's kangaroo rat | <i>Dipodomys ordii</i> |
| Merriam's kangaroo rat | <i>Dipodomys merriami</i> |
| White-throated woodrat | <i>Neotoma albigula</i> |
| Southern plains woodrat | <i>Neotomamicropus</i> |
| Mexican ground squirrel | <i>Spermophilus macicanus</i> |
| Thirteen-lined ground squirrel | <i>Spermophilus tridecemlineatus</i> |
| Spotted ground squirrel | <i>Spermophilus spilosoma</i> |
| Rock squirrel | <i>Spermophilus variegatus</i> |
| Black-tailed jackrabbit | <i>Lepus californicus</i> |
| Desert cottontail | <i>Sylvilagus audubonii</i> |
| Porcupine | <i>Erethizon dorsatum</i> |
| Mule deer | <i>Odocoileus hemionus</i> |
| White-tailed deer | <i>Odocoileus virginianus</i> |
| Pronghorn antelope | <i>Antilocapra americana</i> |
| Javalina | <i>Dicotyles tajacu</i> |
| SOURCE: Roswell Wildlife Database, 2004 | |

Special Status Species

Under the Endangered Species Act (ESA), the Bureau is mandated to conserve and protect threatened/endangered (T/E) species and their habitat on public land.

BLM policy for special status candidate species is contained in BLM Manual 6840. Species proposed for listing as T/E shall be managed with the same level of protection as listed species. With candidate species, the BLM shall carry out management consistent with the principles of multiple-use for the conservation of these species and their habitat. BLM must ensure that actions authorized, funded, or carried out do not contribute to the need to list any of these species as threatened or endangered, and that BLM actions will not adversely affect the likelihood of recovery of any T/E species. Protection and management of all special status species will continue to be a high priority and coordinated with other programs and activities as needed to meet management objectives.

It is policy to systematically gather data on candidate species and forward to the USFWS to determine if a species needs to be listed. Inventory for Federal and State candidate species will continue, and monitoring programs will be implemented on known populations of listed and candidate species. Where monitoring finds threats to these populations, actions will be taken to protect the species and its habitat. Management actions for special status species will be conducted on split-estate land where BLM authorizes an activity to ensure compliance with the ESA.

Collaborative conservation activity plans will be written on any Federally-listed species not presently covered by a recovery plan. When revising or developing resource activity plans, specific objectives and actions stated in the recovery plans will be incorporated.

The BLM shall carry out management for the conservation of State-listed species. State laws protecting these species apply to all BLM programs and actions to the extent that they are consistent with FLPMA and other Federal laws.

Any Federally-authorized, funded, or implemented actions that “may affect” listed threatened or endangered species or proposed species must undergo Section 7 consultation with the USFWS on a case-by-case basis under ESA.

| TABLE 2-5 FEDERALLY LISTED SPECIES OCCURRING OR POTENTIALLY OCCURRING IN THE PLANNING AREA | | |
|-----------------------------------------------------------------------------------------------------------|---------------|-------------------------------------------------------------------------|
| Common/Scientific Name | Status | Occurrence |
| Black-footed ferret/ <i>Mustela nigripes</i> | FE | Very low probability - Extirpated in New Mexico |
| Lesser prairie chicken/ <i>Tympanuchus pallidicinctus</i> | FC | Very high in the northern region to extremely low in the southern range |
| Sand-dune lizard/ <i>Sceloporus aerinicolus</i> | FC | High across most of the area |
| Swift fox | FC | Medium probability – most short-grass prairie |
| SOURCE: Roswell RMP, 1997 | | |
| NOTE: FE = Federally Endangered FC = Federal Candidate | | |

| <p align="center">TABLE 2-6 STATE LISTED SPECIES OCCURRING OR POTENTIALLY OCCURRING IN THE PLANNING AREA</p> | | |
|---------------------------------------------------------------------------------------------------------------------------------------------|----------------|-------------------------------------------------------------------------------|
| Common/Scientific Name | Status | Occurrence |
| Bell's vireo/ <i>Vireo bellii</i> | ST | Very low probability |
| Gray vireo/ <i>Vireo vicinior</i> | ST | Medium probability |
| Lesser prairie chicken/ <i>Tympanuchus pallidicinctus</i> | Proposed ST | Very high in the northern region to extremely low in the southern range |
| Sand-dune lizard/ <i>Sceloporus aerinicolus</i> | ST | Very high in the northern region to extremely low in the southern range |
| <p>SOURCE: Roswell RMP, 1997 NOTE: ST = State Threatened</p> | | |

Both the sand dune lizard and lesser prairie chicken are currently warranted for listing under the ESA and are the primary emphasis for this planning effort. Past management strategies and decisions did not take into account the habitat requirements for these species and did not adequately address the significance of habitat fragmentation and other adverse impacts.

Livestock Grazing

The grazing history of the Planning Area is similar to that of much of the southwestern United States prior to the mid-twentieth century. A small number of ranchers used intermixed private and public lands to support livestock, including cattle, horses, and sheep. The Federal grazing program in the Planning Area was initiated with the implementation of the Taylor Grazing Act in 1934. The program has since been administered by BLM (previously the Grazing Service and the Division of Grazing).

The area available for livestock grazing includes approximately 1.85 million acres and includes all or parts of 113 grazing allotments (see Map 2-4). Allotments consist of a combination of private, State trust, and public lands. Cattle and horses are authorized to graze on public land within the allotments. Minor unauthorized grazing occurs from trespass cattle and horses from private properties that are not part of a grazing allotment.

Livestock use on each allotment varies each year depending on current range conditions and livestock management needs. Livestock use can be measured by the number of cattle or yearlings, or by animal unit months (AUMs). An AUM is the amount of forage needed by one animal unit (e.g., a 1,000 pound cow and calf) for one month. A total of 195,464 AUMs are authorized for use within the Planning Area and approximately 107,083 AUMs were permitted during the 2004-2005 grazing year.

Allotments vary in size from approximately 40 acres to over 100,000 acres, with grazing preferences ranging from less than 20 AUMs to nearly 38,000 AUMs. The majority of allotments are grazed year-round with some type of rotational grazing. Cattle are moved daily within some allotments, while others have a seasonal rest and rotation cycle. Most permittees run a cow/calf operation, with calving generally during February and shipping from October to November. At times heifers are held over as replacement stock. Some permittees run a yearling operation with a period of use generally from May 1 to November 1. Yearlings are purchased either locally or out-of-state.

Fire Management

The “Resource Management Plan Amendment for Fire and Fuels Management on Public Land in New Mexico and Texas” (September 2004) delineates three Fire Regime Condition Classes on public land in New Mexico. Fire Regime Condition Class is “a function of the degree of departure from historical fire regimes resulting in alterations of key ecosystem components such as species composition, structural stage, stand age, and canopy closure.” The majority of the Planning Area is in Fire Regime Condition Class (FRCC) 2 with the remainder in FRCC 1.

Condition Class 1 is described as being within the natural (historical) range of variability of vegetation characteristics; fuel composition; fire frequency, severity, and pattern; and other associated disturbances. Condition Class 2 is described as having moderate departure from the natural (historical) regime of vegetation characteristics; fuel composition; fire frequency, severity, and pattern; and other associated disturbances. FRCC is a proxy for landscape, wildlife habitat, and riparian health.

Hazardous Materials

Precautionary measures are used to prevent releases or spills into the environment on all BLM-authorized activities that involve hazardous materials or their use. The transportation, storage, and handling of hazardous materials are carried out in accordance with manufacturers’ specifications, applicable laws and regulations.

BLM-administered public land contaminated with hazardous materials will be reported, secured, cleaned up or otherwise remedied according to applicable Federal and State regulations and contingency plans. Parties responsible for contamination will be liable for cleanup and resource damage costs, as prescribed in Federal and State regulations. If at all possible, the responsible parties will bear the financial burden of cleanup and resource damage costs.

If hazards are identified on public land, the BLM will provide appropriate warnings and establish precautions for safety hazards associated with the use of this land.

Cultural Resources

The cultural resources program encompasses both proactive and regulatory activities. Proactive elements include public education such as presentations and moveable archeological displays as well as site stabilization and protection. The primary focus of the cultural resource program for both the Carlsbad and Roswell Field Offices is to protect archeological and historic sites from damage during the construction of projects that fall under BLM jurisdiction. Federal law prohibits impacting significant archeological and historic sites as a result of permitting Federal undertakings without prior data recovery. Identification and avoidance of significant cultural resources are accomplished through contracted cultural inventory surveys. Generally, sites must be avoided by 100 feet. In some cases, BLM has approved projects where 100 foot avoidance is reduced, but where fencing or construction monitoring is required. There are cases where cultural surveys will not be required. The criteria to be met are listed below.

- Previous ground disturbance has modified the surface greatly.
- Human activity within the last 50 years has created a new land surface.
- Existing Class 2 (sample survey) or equivalent inventory data are sufficient to indicate that the environmental situation did not support human occupation.

- Availability of Class 3 (intensive survey) information of the area has been fully documented.
- Presence of a geomorphic situation that does not enhance preservation.
- A large number of negative surveys in close proximity to each other.
- Absence of criteria listed in “criteria for survey”.

National Register eligibility is based upon the following criteria:

- a) site(s) that are associated with events that have made a significant contribution to the broad patterns of our history; or
- b) that are associated with the lives of persons significant in our past; or
- c) that embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- d) that has yielded, or may be likely to yield, information important in prehistory or history.

Generally, archeological and historic sites, if eligible, are found to be eligible under criterion (d). Many sites are considered undetermined as to eligibility and so must be protected or archeologically treated prior to surface disturbance.

The Planning Area encompasses approximately 847,491 acres of public land plus an additional 298,000 acres of Federal minerals. Within the Roswell Field Office jurisdiction, there are close to 400 archeological and historic sites recorded on public land including Federal mineral estate. Historic sites number around 20. Roswell Field Office records also show approximately 60 archeological and historic sites recorded on private and State trust lands within the Planning Area. The Carlsbad Field Office records show 2,334 archeological and historic sites recorded on BLM public land, including Federal mineral estate. Historic sites number 27 with 1,449 sites identified as prehistoric, 104 sites as multi-component, and 754 sites with an unknown cultural time period.

Paleontological Resources

The paleontological resources (fossils) program encompasses both proactive and regulatory activities. Proactive elements include public education such as presentations and moveable paleontological displays as well as site stabilization and protection. The primary focus of the paleontological resource program for both the Carlsbad and Roswell Field Offices is to protect paleontological resources sites from damage during the construction of projects that fall under BLM jurisdiction. The goal is to locate, evaluate, and classify the paleontological resources on public land to ensure that they are given full consideration in all aspects of public land management. Fossils are non-renewable and (except for microfossils and those that make up the energy minerals) relatively rare resources with significant scientific, educational, commercial and recreational values. Fossils on Federal land are managed for their scientific, educational and where appropriate, recreational values.

Two Federal laws currently target the illegal collection or destruction of fossils. The Archaeological Resources Protection Act of 1979, 16 U.S.C. §§ 470aa-470mm (ARPA), authorizes penalties for illegal collections of paleontological resources. However, ARPA applies only to paleontological resources that were found in an archaeological context. The Federal Cave Resources Protection Act of 1988, 16 U.S.C. §§ 4301-4309 (FCRPA), authorizes misdemeanor-level penalties for illegal collections of paleontological resources from significant caves. Because these authorities address a limited subset of fossils, laws penalizing the theft or depredation of government property (18 U.S.C. § 641 and § 1361) now offer the primary protection for fossils on Federal land. Identification and avoidance of significant paleontological resources are accomplished through contracted cultural inventory surveys. Generally, paleontological sites must be avoided by 100 feet. In some cases, BLM has approved projects where 100 foot avoidance is reduced, but where fencing and/or construction monitoring is required.

Public land will be classified at the field level according to their potential for noteworthy occurrences of fossils. Classification will use any available sources of information, including data banks, maps, knowledge of local residents, and data from paleontologists. Classification will rank the public land as follows:

- Condition 1: Areas that are known to contain fossil localities. Consideration of paleontological resources will be necessary if available information indicates that fossils are present in the area.
- Condition 2: Areas with exposures of geological units or settings that are likely to produce fossils. The presence of geological units from which fossils have been recovered elsewhere will require an assessment of these same units if they occur in the area of consideration.
- Condition 3: Areas that are extremely unlikely to produce fossils, based on their surface geology.

Paleontological resources will be addressed in environmental analysis processes to ensure adequate protection.

In areas classified as Condition 1 or Condition, where potential impacts exist from proposed surface disturbing activities, the following procedures will be employed:

- A qualified paleontologist will conduct a literature review and records survey to identify areas where fossils are known to occur in the general area of the proposed action.
- A qualified paleontologist will conduct a field survey whenever a literature review and records survey indicate that vertebrate or other noteworthy occurrences of fossils are or may be present.
- A report of findings will be prepared following the completion of the field survey, literature review and records survey.

In areas determined to have noteworthy occurrences of fossils, mitigation of surface disturbing activities will be considered. A mitigation and monitoring plan based on a report of finding will be prepared recommending the types of mitigation and intensity of monitoring needed. Mitigation may include:

- Avoiding fossils by redesigning or relocating a proposed project
- Complete or partial salvage of the fossil(s) under a permit
- Obtaining representative samples of the fossils from the project area under a permit

Management of paleontological resources will include making them available for uses such as scientific collection and research, educational and interpretive activities, and recreation.

The Planning Area encompasses approximately 847,491 acres of public land plus an additional 298,000 acres of Federal minerals. Within the Roswell Field Office and Carlsbad Field Office jurisdiction, there have been several paleontological sites recorded on BLM managed land including Federal mineral estate and karst features.

Recreation

The Roswell Field Office Recreation Program administers an Off Highway Vehicle (OHV) area known as the Mescalero Sands North Dune OHV Area. The OHV Area encompasses 562 acres for the purpose of providing outdoor recreation opportunities for public land users who recreate with OHVs, such as quad runners, dune buggies, and motorcycles.

Mescalero Sands North Dune OHV Area is the only area designated “open” to OHV uses within the Planning Area. The Roswell RMP identifies the expansion of the existing OHV Area by an additional 943 acres. The sport of OHV riding has increased and the expansion of the OHV area has advantages and disadvantages. However, during the planning process and public scoping, the planning team will assess comments received and analyze the impacts of expanding the OHV area. The RMPA/EIS may change the RMP decisions in the OHV area regarding this issue.

The Carlsbad Field Office Recreation Program administers an Off-Road Highway (ORV) area known as the Hackberry Lake ORV Area. Hackberry Lake ORV Area is the larger of two areas within the Carlsbad Field Office that is designated “open” to intensive ORV use. The Hackberry Lake OHV Area encompasses 55,800 acres for the purpose of providing outdoor recreation opportunities for public land users who recreate with OHVs, such as quad runners, dune buggies, and motorcycles. Hackberry Lake ORV Area also encompasses a dune complex that is used heavily throughout the year. Hackberry Lake ORV Area is used annually by the Desert Rough Riders hosting the Carlsbad 100 Desert Race. Approximately 22,673 acres of the Hackberry Lake ORV Area is located within the Planning Area.

It is evident by the number of visitor days and the use of the area that there is a need to provide this type of recreation opportunity on public land to address the concerns of public land users and to provide an area where OHVs could be used without causing major impact to resources.

The established goal of providing this OHV area is to manage OHV use and to provide adequate access and reduce adverse impacts on sensitive resource values. The OHV area is currently open for mineral leasing. The Carlsbad Field Office coordinates with the oil and gas industry to avoid specific routes and trails in order to provide quality recreational opportunities for OHV users in conjunction with user demands and to provide this recreation activity with emphasis on safety.

Within the Planning Area, there is an undesignated, unnamed dune complex located approximately 2-3 miles east of the dune complex at Hackberry Lake OHV Area. This dune complex is also heavily used throughout the year by OHV enthusiasts.

Effective August 5, 2004, the Planning Area is under Interim Management pending the RMPA/EIS. Under Interim Management, all land in the Planning Area within the Carlsbad Field Office that is currently designated as open to OHV use will be temporarily designated as limited to existing roads, trails, or ways. An exception in Carlsbad Field Office is the Hackberry Lake Intensive ORV area which will continue to be designated as open to OHV use.

- Bear Grass Draw - All Special Management Area (SMA) acreage within the Planning Area is designated "Limited to designated routes"
- Laguna Plata - 120 acres designated "Closed" to OHV use; 2,240 acres designated "Limited to designated routes"
- Maroon Cliffs - All SMA acreage within Planning Area designated "Limited to designated routes"
- Poco Site - 51 acres designated "Limited to designated routes"

There is no designated Wild and Scenic Rivers or Wilderness Areas present in the Planning Area. There are no cave/karst issues within the Carlsbad part of the Planning Area.

Visual Resources

Visual Resource Management Classes for the Roswell and Carlsbad Field Offices are identified on Map 2-5.

Special Management Areas

Roswell Field Office

The 1997 Roswell RMP documents three SMAs within the Planning Area: the Mathers Research Natural Area (RNA), the Mescalero Sands North Dune OHV Area, and the Mescalero Sands Area of Critical Environmental Concern (ACEC). The Roswell RMP designates the OHV area and the ACEC as special recreation management areas (SRMA). All three areas are entirely within the Planning Area.

- Mathers Instant Study Area (ISA)

The Mathers RNA contains 242 acres and is the same as the Mathers Instant Study Area (ISA). The ISA is the result of New Mexico BLM's 1991 Wilderness Study Report. BLM determined the ISA was of insufficient size for wilderness preservation, bisected by a major improved road, and lacks outstanding opportunities for solitude and primitive recreation. The report mistakenly listed the ISA's size as 362 acres based on an original designation of the area as a Natural Area. Research into the original documents revealed the original Mathers Natural Area designation as 242 acres. Henceforth, the Mathers RNA and ISA will be listed as 242 acres.

- Mescalero Sands ACEC/Mescalero Sands North Dune OHV Area

The Mescalero Sands North Dune OHV is the only area designated as open to OHV use in the Roswell Field Office. The Mescalero Sands ACEC is a separate area of 7,888 acres of public land. The ACEC management goal is to protect the biological, archeological and scenic

qualities of the ACEC, with emphasis on the preservation of a portion of the shinnery oak-dune community to enhance the biodiversity of the ecosystem.

Carlsbad Field Office

The 1988 Carlsbad RMP established 23 SMAs, four of which are entire or partially within the Planning Area.

- Bear Grass Draw

Bear Grass Draw consists of 1,780 acres, of which 1,280 acres are within the Planning Area. The management objective for this Cultural Resource Management Area is to protect and preserve the important and sensitive cultural resource values for research.

- Laguna Plata

The Laguna Plata Archeological District contains 3,360 acres of public land and is located entirely within the Planning Area. The management goal is to protect and preserve the important and sensitive cultural resource values for research.

- Maroon Cliffs

The Maroon Cliffs Archeological District originally contained 11,783 acres of public land. The 1997 Carlsbad RMP Amendment increased the size of the district to 17,720 acres of which approximately 4,760 acres are within the Planning Area. The management goal is to protect and preserve the important and sensitive cultural resource values for research.

- Poco Site

The Poco Site contains 51 acres and is entirely within the Planning Area. The management goal is to protect and preserve the important and sensitive cultural resource values for research.

- Hackberry Lake Off-Road Vehicle Area

The Hackberry Lake ORV Area contains 55,800 acres of public land of which approximately 21,440 acres are within the Planning Area. The management objective is to manage the area as an intensive ORV use area and avoid conflicts with other land uses.

Social and Economic Values

Demographics

The Planning Area covers parts of four counties in southeast New Mexico, Roosevelt, Chaves, Eddy and Lea. While the Planning Area itself is rural in nature, it is surrounded by these communities: Portales and Elida in Roosevelt County; Roswell, Dexter, Hagerman and Lake Arthur in Chaves County; Artesia, Carlsbad and Loving in Eddy County; and Jal, Eunice, Hobbs, Lovington and Tatum in Lea County.

| TABLE 2-7 POPULATION 2000 CENSUS | |
|---------------------------------------------|-------------------|
| COUNTY | POPULATION |
| Chaves | 61,306 |
| Eddy | 55,206 |
| Lea | 51,473 |
| Roosevelt | 17,994 |
| TOTAL | 155,979 |
| SOURCE: Bureau of Census, 2000. | |

Within these counties, roughly 70 percent of population classifies itself as white while approximately 40 percent identify themselves as Hispanic or Latino of any race. This compares with 67 percent white and 42 percent Hispanic or Latino of any race within the State of New Mexico.

Over the past 30 years, the populations of all four counties have grown. This growth, however, in Eddy, Lea and Roosevelt was less than the population growth of State of New Mexico and the Nation as a whole. Only Chaves County posted population growth greater than the State of New Mexico, but less than population growth in the nation.

Most residents of these counties live in the larger towns of Roswell, Artesia, Carlsbad, Hobbs and Lovington. For example, the 2000 Census indicated the population of Roswell at about 46,000. That leaves about 15,000 people living in the other communities and unincorporated areas of Chaves County surrounding those communities.

Economics

Historically, agriculture, particularly cattle ranching and petroleum development have played a significant role in economic development. In a very real sense, the identity of the residents, their sense of place, culture, architecture, and fashion have been shaped by these industries. These industries, however, have not been a significant source of new jobs or personal income in the last 30 years. This does not mean that cattle ranching or petroleum development should disappear. They are an important part of an increasingly diverse economy. In some communities and for some families, they will continue to be important.

A diversified economy is healthier than an economy based on a single industry. In a diversified economy, each industry or category becomes tied to the other industries or categories. Each is important to the economic health of communities surrounding the Planning Area. Diversified economies are better able to withstand market fluctuations than economies based on a single industry.

Virtually all official sources of economic data use the Standard Industrial Classification (SIC) System. For simplicity in presentation, this document combines some of the SIC categories. The categories used are Farm & Agricultural Services; Mining (which includes oil and gas employment); Manufacturing; Construction; Government (all levels) and Services & Professional. The Services & Professional category includes transportation and public utilities; wholesale trade; retail trade; finance, insurance and real estate; and health, legal, business and other services.

While agriculture and petroleum development are viewed as the main source of employment in southeast New Mexico, a review of Bureau of Labor Statistics, Bureau of Economic Analysis, Bureau of Census and other Department of Commerce information, indicates this is not entirely correct. The largest employment category in the four counties is Services & Professional and has been for the past 30 years. The next largest category of employment is Government. Interestingly, within this category, the largest growth has been in State and Local government employment. Federal employment has remained level.

| TABLE 2-8 EMPLOYMENT BY INDUSTRY 2000 CENSUS | | | | |
|-------------------------------------------------|---------------|-------------|------------|------------------|
| Industry | Chaves County | Eddy County | Lea County | Roosevelt County |
| Total Employment | 28,138 | 25,776 | 28,942 | 7,815 |
| Wage & Salary Employment | 21,885 | 20,538 | 23,231 | 5,659 |
| Proprietors' Employment | 6,253 | 5,238 | 5,711 | 2,156 |
| Farm & Ag Services | 2,227 | 1,180 | 1,200 | 1,484 |
| Farm | 1,592 | 831 | 883 | 1,267 |
| Ag Services | 635 | 349 | 317 | 217 |
| Mining | 1,155 | 3,089 | 5,389 | 50 |
| Manufacturing | 2,334 | 996 | 515 | 256 |
| Services & Professional | 16,150 | 15,340 | 16,428 | 3,549 |
| Transportation & Public Utilities | 929 | 2,014 | 1,452 | 466 |
| Wholesale Trade | 978 | 595 | 1,285 | 213 |
| Retail Trade | 5,669 | 4,588 | 4,723 | 1,362 |
| Finance, Insurance & Real Estate | 1,619 | 1,325 | 1,477 | 333 |
| Health, Legal, Business & Other Services | 6,955 | 6,818 | 7,491 | 1,175 |
| Construction | 1,349 | 1,519 | 1,629 | 437 |
| Government | 4,923 | 3,652 | 3,781 | 2,039 |
| SOURCE: Bureau of Census, 2000. | | | | |

During the past 30 years, approximately 30,000 new jobs have been created in the four counties. About 71 percent of these jobs have been in the Services & Professional category. The biggest loser, in regards to employment, during this time has been the Farm component of Farm & Agricultural Services at over 1,000 jobs. Employment in the Mining category, which includes Oil/Gas employment, has remained level.

| TABLE 2-9 PERSONAL INCOME 2000 CENSUS | | |
|------------------------------------------|-------------------|--------------------------|
| County | Per Capita Income | Average Earnings Per Job |
| Chaves | \$19,651 | \$27,016 |
| Eddy | 21,007 | 27,751 |
| Lea | 20,229 | 26,443 |
| Roosevelt | 18,213 | 24,682 |
| SOURCE: Bureau of Census, 2000. | | |

The employment described above generates personal income. The Average Earnings per Job for all four counties is below that of the State of New Mexico and the nation.

| TABLE 2-10 SOURCES OF PERSONAL INCOME 2000 CENSUS (MILLIONS OF DOLLARS) | | | | |
|----------------------------------------------------------------------------|---------------|--------------|--------------|------------------|
| Income Source | Chaves County | Eddy County | Lea County | Roosevelt County |
| Farm & Ag Services | 130 | 26 | 38 | 55 |
| Farm | 117 | 23 | 34 | 53 |
| Ag Services | 13 | 3 | 4 | 2 |
| Mining | 40 | 144 | 195 | 1 |
| Manufacturing | 75 | 42 | 13 | 6 |
| Services & Professional | 317 | 331 | 364 | 65 |
| Transportation & Public Utilities | 33 | 93 | 73 | 20 |
| Wholesale Trade | 26 | 20 | 42 | 4 |
| Retail Trade | 83 | 64 | 68 | 18 |
| Finance, Insurance & Real Estate | 26 | 24 | 25 | 4 |
| Health, Business, Legal & Other Services | 149 | 130 | 154 | 20 |
| Construction | 40 | 42 | 45 | 10 |
| Government | 158 | 130 | 112 | 55 |
| Non-Labor Income | 479 | 403 | 371 | 126 |
| Dividends, Interest & Rent | 234 | 189 | 162 | 51 |
| Transfer Payments | 245 | 214 | 210 | 75 |
| TOTAL | 1,205 | 1,081 | 1,117 | 328 |
| SOURCE: Bureau of Census, 2000. | | | | |

The largest source of personal income in the four counties is the Non-Labor Income category followed by Services & Professional. Non-Labor Income is defined as income derived from dividends, interest, rent, and transfer payments. Transfer payments include retirement, disability, Medicare, welfare and other payments.

Net farm income can be used as an indicator of the size of the agriculture component of a local economy. Over the past 30 years, net farm income has fluctuated widely and wildly in response to market conditions and costs of production.

| TABLE 2-11 NET FARM INCOME 2000 CENSUS | |
|-------------------------------------------|----------------|
| County | Millions |
| Chaves | \$96.8 |
| Eddy | 12.7 |
| Lea | 29.1 |
| Roosevelt | 41.1 |
| TOTAL | \$179.7 |
| SOURCE: Bureau of Census, 2000. | |

Chapter 3

CHAPTER 3

CURRENT MANAGEMENT DIRECTION

INTRODUCTION

This chapter describes current management direction based on existing land use plans and amendments by program (and later becomes the basis for the No Action Alternative).

RELEVANT PLANS AND AMENDMENTS

| DOCUMENT TITLE | YEAR | OTHER RELEVANT INFORMATION | ADMIN RECORD DOCUMENT NUMBER |
|-------------------------------------------------------------------------------------|------|----------------------------|------------------------------|
| Carlsbad Resource Management Plan (RMP) | 1986 | | BLM-NM-PT-89-001-4410 |
| Roswell RMP | 1997 | | BLM-NM-PT-98-003-1610 |
| Carlsbad RMPA | 1997 | Oil & Gas | BLM-NM-PT-98-004-1610 |
| NM Standards for Public Land Health and Guidelines for Livestock Grazing Management | 2000 | | BLM-NM-PL-00-006-1020 |

MANAGEMENT DECISIONS

Lands and Realty

The Carlsbad RMP and RMPA (1997) and the Roswell RMP (1997) contain the following objectives with regard to the lands and realty program. Those public land resources and programs not addressed in this section will continue to be managed under the existing RMP and RMPAs.

Land Tenure Decisions

Land tenure decisions are those decisions that identify lands for retention, proposed disposal, or acquisition. All potential land tenure decisions that may occur in the Planning Area must adhere to the goals, standards and objectives outlined in the respective planning documents.

Currently, within the Planning Area for land managed by the Carlsbad Field Office, there are 41,233.4 acres of public land identified for disposal.

Acquisitions

In the Carlsbad Field Office, State trust land within the Laguna Plata Cultural Resource Management Area has been identified for acquisition. Other land may be acquired if determined to contain resources important for Special Management Programs.

For land managed by the Roswell Field Office, all potential land tenure decisions that may occur would adhere to the acquisition, retention, and disposal criteria. Specific areas identified for acquisitions are addressed in AP6-2 and Table 12 on page 27 of the Roswell RMP of 1997.

Withdrawals

Land withdrawals and classifications would be processed to afford protection to important/critical resource values. New withdrawal initiatives would be processed on a case-by-case basis.

Access

Access to public land would be provided throughout the Planning Area. Access would be closed or restricted where necessary and in accordance with Off-Highway Vehicle (OHV) designations, to protect public health and safety or areas with significant resource values.

Easements would be acquired to provide access to public land for recreation, wildlife, range, cultural and historical, mineral, area of critical environmental concern (ACEC), special management areas and other resource needs, as opportunities arise.

Trespass

Unauthorized uses would be resolved on a case-by-case basis.

Utility and Transportation System

Land use authorizations (rights-of-way [ROWs], leases, permits) would be issued on a case-by-case basis.

Whenever possible, facilities would be confined to existing alignments, minimizing width requirements, and maximizing multiple occupancy of granted ROWs. ROWs locations, and terms and conditions for their use, would be identified. ROWs would be granted only after site-specific analysis and development of specific conditions of approval have been completed. ROWs would also be issued in accordance with current BLM policy and guidance. Agriculture leases would be considered only when the lease is compatible with or enhances the land's identified resource values. Landfills, hazardous waste disposal sites, and produced water disposal pits would not be authorized under ROWs or R&PP leases. If public land is needed for these purposes, a title transfer would be considered. Public land in the Planning Area would be made available for ROWs, permits, and leases.

Rights-of-Way Avoidance/Exclusion Areas and Corridors

For the Carlsbad Field Office, ROW avoidance areas are defined in BLM Manual 1623.51 (as of 1988) as: "...areas where future rights-of-way maybe granted only when no feasible alternative route or designated right-of-way corridor is available." Terms and conditions of ROW grants would depend on the sensitivity of the affected resources and applicable laws and regulations established to protect them.

For the Roswell Field Office, areas proposed for exclusion of ROWs for major projects such as electric transmission lines; pipelines 10 inches in diameter or larger; communication lines for interstate use; Federal, State and interstate highways; and major county and private roads are shown on Map 3-1. Lands acquired as habitat for Special Status Species or acquired for wetland/riparian values would be added to the ROW exclusion area for major projects. Exceptions would be considered in exclusion zones on a case-by-case basis for facilities such

as fences, range and wildlife water pipelines, power distribution lines, access to oil and gas facilities, or oil and gas collection or distribution pipelines.

Areas proposed for avoidance of ROWs for major projects such as electric transmission lines; pipelines 10 inches in diameter or larger; communication lines for interstate use; Federal, State and interstate highways; and major county and private roads are shown on Map 3-1. ROWs for major projects and for facilities such as fences, range and wildlife water pipelines, power distribution lines, access to oil and gas facilities, or oil and gas collection or distribution pipelines would be considered in avoidance zones on a case-by-case basis.

ROW corridors have been designated as BLM's preferred locations for major new utility and transportation facility alignments through the Carlsbad Field Office Area. Although the Roswell Field Office RMP does not currently designate corridors, major new utility and transportation facility alignments would follow the routes designated in the Western Regional Corridor Study.

ROW avoidance/exclusion areas and corridors are shown on Map 3-1.

Existing ROWs

Within the Planning Area, there are approximately 12,791 ROWs. About 11,915 are within land managed by the Carlsbad Field Office, and 876 are located within land managed by the Roswell Field Office.

Geology and Minerals

Fluid Minerals

Current Management Guidance and Prescription

The current management guidance provides opportunity for leasing, exploration, and development of oil and gas resources and to protect the resources listed in the Carlsbad and Roswell RMPs and Instruction Memorandum NM-2004-060; Implementing Interim Management for Lesser Prairie Chicken and Sand Dune Lizard Habitat in Southeast New Mexico (see Appendix A for discussion of Interim Management).

All Federal mineral estate subject to oil and gas leasing, regardless of surface ownership, is subject to the standard lease terms and conditions provided in the lease form. Once a lease is issued, the lessee has the right to use as much of the leased lands as necessary to explore for, drill for, mine, extract, remove, and dispose of all the leased oil and gas resource in a leasehold, subject to the stipulations attached to the lease; restrictions derived from specific, nondiscretionary laws; and any other reasonable measures that may be required by the authorized officer to minimize adverse impacts on other resource values, land uses, or land users not addressed in the lease stipulations at the time lease operations are proposed.

Development of the oil and gas mineral rights granted to a lessee is totally discretionary. Neither the Mineral Leasing Act of 1920, as amended and supplemented, nor the Federal Oil and Gas Leasing Reform Act of 1987 compels the lessee to develop the leasehold. A Federal oil and gas lease is issued for a primary term of 10 years and may continue for so long thereafter as oil or gas is produced in paying quantities. If at the end of a lease's primary term, no diligent drilling activities are taking place and there is nothing else to extend the lease (i.e., it

is not committed to a producing communitization or unitization agreement and does not contain a well capable of producing in paying quantities), the lease simply expires and the lands are again available for competitive oil and gas leasing.

In cases where Federal oil and gas leases are or have been issued without stipulated restrictions or requirements that are later found to be necessary, the needed restrictions or requirements may be included in approving subsequent exploration and development activities. Federal oil and gas leases that have been issued with stipulated restrictions or requirements that are later found to be insufficient may also be modified to include the needed restrictions or requirements when approving subsequent exploration and development activities. These restrictions or requirements may only be included as reasonable measures or as conditions of approval (COA) in authorizing applications for permit to drill (APD), sundry notices, or plans of development (POD).

In cases where leases are or have been issued with stipulated restrictions or requirements that are later found to be excessive or unnecessary, the stipulated restrictions or requirements may be appropriately modified, excepted or waived in authorizing APDs, sundry notices, or PODs.

Both the application of reasonable measures or COAs and the modification, exception or waiver of stipulated restrictions or requirements must first be based upon site-specific analysis of individual APDs, sundry notices, or PODs, including the necessary supporting NEPA documentation.

Stipulations that allow controlled surface use are a valuable management tool to achieve multiple use. Such stipulations allow the public to benefit from both the production of the fluid minerals and the continuation of other land uses, without resorting to allocation of lands for exclusive uses.

Stipulations that prohibit surface use represent a form of land use allocation and are avoided whenever other methods to reduce are possible. For example, stipulations requiring mitigative measures may reduce impacts of oil and gas lease operations to an acceptable level. It is a BLM requirement to develop and set forth lease stipulations in RMPs to ensure protection and opportunities for developing oil and gas resources in advance of lease issuance.

Areas designated as wilderness study areas (WSAs) are closed to leasing as part of the Wilderness Interim Management Policy. Existing leases in WSAs will not be re-issued once they expire. In the event WSAs are not designated as wilderness by Congress, all WSAs in the Planning Area will remain closed to leasing. Surface-disturbing activities in the existing ACECs and special management areas (SMAs) are restricted and intensively managed to maintain important resource values.

Cultural sites determined to be eligible and potentially eligible for the National Register of Historic Places will be protected from damage by avoidance policies. Potentially eligible sites will be tested to determine their eligibility and mitigation practices such as data recovery will be required for these sites if avoidance procedures can not be accomplished.

As a standard practice, ephemeral and perennial drainages and wetland/riparian areas will be avoided as locations for oil and gas related facilities, including drilling locations, production facilities, roads, and pipelines. Whenever possible, facilities will be confined to existing alignments or locations, minimizing width requirements and maximizing multiple occupancy.

The following areas are closed to new leasing in the Planning Area (see Map 3-2).

| | |
|-----------------------|-----------------|
| DOE: | 10,970.80 acres |
| Mescalero Sands ACEC: | 7,931 acres |
| Mathers RNA | 242 acres |
| Maroon Cliffs | 12,019 acres |

The following areas in the Planning Area are designated as No Surface Occupancy areas (see Map 3-2):

| | |
|---------------|-------------|
| Poco Site | 256 acres |
| Maroon Cliffs | 5,820 acres |
| Laguna Plata | 3,360 acres |

Implementation of Current Management Prescriptions

Leasing for oil and natural gas resources would continue according to current trends. The Planning Area has high potential for oil and natural gas development, as identified in the Mineral Occurrence and Development Potential Report and the Reasonable Foreseeable Development analysis. Infrastructure and support facilities such as processing facilities and pipelines will continue to be developed to support increased oil and gas development. Additional roads would be developed as needed to support expanded oil and gas operations in compliance with the multiple use concepts within Federal Land Policy and Management Act (FLPMA). Use of roads would increase, based on anticipated increases in oil and gas activity and recreational use. Unauthorized roads may be closed and reclaimed.

Salable Minerals

Current Management Guidance and Prescription

The current management guidance provides opportunity for exploration and development of salable mineral resources while protecting other resource values. The management actions stipulated in 43 CFR 3600 and cited in the RMP are applicable to salable minerals.

Salable minerals disposition is addressed under the Materials Act of 1947, as amended by the Acts of 1955 and 1962. These acts authorized that certain mineral materials be disposed of either through a contract of sale or a free-use permit. This group of mineral materials, commonly known as “salable minerals,” includes common varieties of sand, stone, gravel, pumice, pumicite, cinders, clay, and petrified wood in public land of the United States (Maley 1977).

Salable minerals that occur within the Planning Area include aggregate, caliche, silica sand, and common clay. By far, the most significant salable mineral within the Planning Area, both in terms of occurrence and demand, is caliche. Aggregate, or sand and gravel resources, are also significant. Aggregate resources typically occur in one or more of the following forms: natural gravel deposits, alluvial sand and gravel deposits, terrace sand and gravel deposits, older gravel deposits, and windblown deposits. Within the Planning Area, the aggregates resource base is generally present as windblown, terrace, and alluvial deposits; however, coarser gravel type materials are also present.

Implementation of Current Management and Prescriptions:

The Planning Area would continue to have a high potential for salable mineral resources, as identified in the Mineral Occurrence and Development Potential Report and the Reasonable Foreseeable Development Analysis.

Solid Leasable Minerals

All public land would be open for the leasing of solid minerals, except those identified otherwise. (See Map 3-3.)

Locatable Minerals

Lands currently withdrawn from entry under the 1872 Mining Law or closed to mineral leasing would remain unchanged unless otherwise designated by this Plan (see Chapter 4). The BLM would periodically review all land withdrawals to determine if restrictions continue to be necessary to protect affected resource values. At such time as a withdrawal is no longer considered to be necessary, it will be lifted and the land returned to management under the general mining and mineral leasing laws.

All BLM-administered public land would be open to mining claim location and development, except the land closed to mining claim location by withdrawal. BLM-administered public land currently withdrawn from all forms of appropriation under the general mining laws is summarized in Chapter 6.

Alternative Energy

Neither the Carlsbad RMP nor the Roswell RMP address solar or wind energy. Management direction and planning guidance are found in Instruction Memorandum (IM) No. 2005-006, Solar Energy Development Policy, and the Wind Energy Development Programmatic Environmental Impact Statement.

The IM outlines current BLM policy, which is to facilitate environmentally responsible commercial development of solar energy projects. Commercial CSP or PV generating facilities must, however, comply with BLM planning, environmental and current right-of-way application requirements, as do other similar commercial uses. The IM requires new or updated BLM land use plans to consider National Renewable Energy Laboratory maps showing areas having commercial solar energy development potential. The land use plan amendments or revisions should address potential impacts of solar energy development and related environment and local community issues.

The IM can be accessed on-line at www.blm.gov/nhp/efoia/wo/fy05/im2005-006.htm.

The Wind Energy Development Programmatic EIS (www.windeis.anl.gov) evaluates the potential impacts associated with the proposed action to develop a Wind Energy Development Program, including the adoption of policies and best management practices (BMPs) and the amendment of a number of BLM land use plans to address wind energy development. The Draft Programmatic EIS also evaluates the No Action Alternative and a Limited Wind Energy Development Alternative.

The scope of the EIS analysis includes an assessment of direct, indirect, and cumulative environmental, social, and economic impacts of wind energy development on BLM-administered public land in 11 western states (Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming); discussion of mitigation measures to address these impacts; and identification of appropriate, programmatic policies and best management practices (BMPs) for the proposed Wind Energy Development Program. Potential land use plan amendments have also been assessed, including (1) adoption of the proposed programmatic policies and BMPs and (2) identification of specific areas where wind energy development would not be allowed.

As a programmatic evaluation, this EIS does not evaluate site-specific issues associated with individual wind energy development projects. A variety of location-specific factors and variations in project size and design will greatly determine the magnitude of the impacts from individual projects; such effects must be evaluated at the project level.

Soils

Goal: Provide benefits and prevent damage to other resources by managing soil resources.

Best Management Practices (BMPs) will be used to minimize sedimentation as a cause of nonpoint source pollution in surface waters. The BMPs, based on standard operating procedures, oil and gas lease stipulations or BLM policy, will be specified in activity plans for actions that make soils more susceptible to erosion, or which impair soil productivity. Full consideration will be given to environmental benefits and economic costs of the BMPs. Activities requiring implementation of BMPs will include, but would not be limited to:

- soil disturbing activities that result in soil loss due to accelerated wind or water erosion
- activities that reduce vegetative cover, thus exposing the soil to erosion processes, and reducing the amount of soil organic matter and soil productivity
- activities that tend to concentrate surface runoff or steepen hydraulic gradients, thus increasing soil erosion by flowing water
- activities that result in sediment loading directly to streams
- activities that damage soil structure by compaction or other means
- activities that degrade the physical, chemical, or biological properties of the soil, such as high-intensity burns, contamination by toxic substances, or other means.

Surface disturbance will not be allowed on slopes over 30 percent or on fragile soils. The slope restriction will not apply to livestock grazing.

Federal law as well as BLM policy directs how watersheds and soils are managed. Additionally, the approved Carlsbad and Roswell Resource Management Plans stipulate how specific watersheds and soil resource areas are managed. The current management objective for watersheds states that during periods of drought or other emergencies, adjustments in livestock numbers will be made to guard against damage to vegetation and soil resources. Where soils and nontarget vegetation are disturbed, reclamation measures will be taken. These measures

could include returning the land to as near its natural form as possible and reseeding with mixtures of grasses and forbs to prevent erosion. If any new roads or trails are proposed, they will be constructed only if existing roads and trails cannot be used, and then only after a site specific environmental assessment has been prepared.

The current management objective for soils is to provide benefits and prevent damage to other resources by managing soil resources.

Water Resources

Goal: Increase water availability by enhancing annual water yields, instream flows, and discharge from springs, while also reducing resource damage by floods and accelerated erosion.

Strategic watershed management plans will be developed and implemented for watersheds that are susceptible to severe long-term soil losses or gully erosion, and which have a high potential to respond to treatment.

As part of the watershed management plan prepared for the watershed, site-specific prescriptions will be written which could include, but not be limited to, the following practices: (1) mechanical, chemical, or prescribed fire vegetation treatments; (2) plantings of native riparian plant species and seeding of herbaceous ground cover; (3) livestock grazing management by controlling livestock numbers and season of use, and by providing alternative water and mineral sources, after consultation, cooperation, and coordination with the permittee or lessee and other interested parties; (4) construction of erosion, sediment and flood control structures; (5) use of other methods determined most suitable for site-specific conditions; (6) implementation of a monitoring program, including a feedback loop which will guide management based on monitoring information.

After consultation, cooperation, and coordination with the permittee or lessee and other interested parties, springs and seeps, playas, and sinkhole lakes on public land will be developed to improve wetland and riparian habitat, and to increase water availability. Water sources will be prioritized for development based on the following criteria:

- Presence of threatened or endangered species;
- Potential habitat for threatened or endangered species;
- Presence of perennial water or ephemeral water for extended periods;
- Presence of native riparian vegetation;
- Significant ground-water recharge areas;
- Limited alternative water sources in the area for wildlife and livestock;
- Federal ownership of both surface and subsurface estates.

Water source developments could include, but are not limited to:

- Protective exclosures;
- Native riparian plantings;
- Construction of supplemental water pipelines;
- Control of undesirable vegetation; and
- Off-site livestock waters.

The estimated mean annual runoff ranges from less than 0.2 inch in the Planning Area. Intense thunderstorms from July through September normally contribute about 60 percent of the annual precipitation. The thunderstorms are the major source of flow in numerous intermittent drainage channels.

Floodplains are land areas susceptible to being inundated from any source, and include small and often dry watercourses and areas along rivers, streams, and lakes. Floodplains are delineated on Flood Insurance Rate Maps and Flood Hazard Boundary Maps issued by the Federal Emergency Management Agency (FEMA) on a county-wide basis. Floodplain management is covered by Executive Order 11988 (42 CFR 26951, 1977) and BLM Manual 7221.

Surface Water Management: Quality

Goal: Maintain or improve the quality of surface waters to support all designated uses listed by the New Mexico Water Quality Control Commission. Water quality would be based on the general and specific stream standards outlined by the WQCC.

Further degradation of water quality will be prevented whenever practicable to meet present or possible future demands, such as domestic or municipal water supplies, irrigation, livestock, wildlife, recreation, aquatic and riparian habitat, and other uses. Exceptions will be possible when water quality standards more stringent than State and Federal standards would result in increased economic costs.

Best Management Practices (BMPs) will be developed in the Planning Area for actions that degrade surface water quality through nonpoint source pollution. The primary emphasis of BMPs will be on preserving water quality. Surface water quality parameters that would be addressed in BMPs include, but are not limited to: water temperature, turbidity, sediment transport and yield, chemical loading, and nutrient loading.

Due to “checkerboard” ownership in watersheds, management on BLM-administered public land alone may not be adequate to support designated stream uses. Where appropriate, cooperative agreements, memorandums of understanding (MOUs), or other interagency efforts could be made to manage entire watersheds to maintain or improve water quality.

Surface water quality standards have been established by the WQCC (1991). Surface waters that are not fully supporting designated or attainable uses have also been identified by the WQCC (1992).

Groundwater Management

Goal: Maintain or improve groundwater quality to meet applicable State and Federal standards.

Further degradation of groundwater quality will be prevented whenever practicable, even when WQCC standards allow for further degradation. Exceptions will be considered for areas specifically exempted by State or Federal authority or when water quality standards more stringent than State and Federal standards would result in increased economic costs.

BMPs will be developed on a case-by-case basis for actions that degrade groundwater quality through nonpoint source pollution, for groundwater with 10,000 mg/l total dissolved solids (TDS) or less. The primary emphasis of BMPs will be on preserving water quality. Groundwater quality

parameters that would be addressed in BMPs include, but are not limited to: TDS, pH, volatile organic compounds, and heavy metals.

For any site proposed for pesticide treatment, the potential for groundwater contamination will be evaluated with the EPA rating system, DRASTIC (Aller et al. 1985). If the site proposed for treatment has a DRASTIC index greater than 100, it has a moderate to high potential for groundwater contamination, and will require a more detailed analysis prior to a decision being made on the proposed treatment. Factors that will be studied further include: pesticide solubility, mobility, speciation, and degradation, and highly localized recharge areas.

Water Rights Management

Goal: Protect existing public land water supplies, which include Federal reserved water rights and State appropriative water rights. Comply with State water law to acquire and perfect water rights needed to carry out multiple-use management.

Actions proposed by the BLM will be evaluated for potential effects on water resources. The New Mexico State Engineer Office (SEO) will be consulted to ensure that BLM water rights are maintained, and that other users' water rights are not adversely affected.

Water use proposals filed with the SEO by entities other than the BLM that could affect water rights and uses on public land will be evaluated for their impact on BLM water resources. Actions that will impair the quality of public land resources would be protested through procedures specified by the SEO.

The acquisition or protection of water rights will be prioritized according to the following list (in descending order of importance):

1. Streams or rivers with special designation by Congress.
2. Other streams or rivers.
3. Springs.
4. Wells.
5. Natural water holes, playas, and sinkholes.
6. Reservoirs greater than 10 acre-feet capacity.
7. Reservoirs less than 10 acre-feet capacity.

Water rights held by the BLM will be maintained primarily through:

- Beneficial use, and maintenance of manmade diversions, where appropriate. The SEO will be notified of all water uses and relevant public land authorities. Proposals that require the use of BLM-held water would include specific provisions for meeting these requirements, prior to approval by the BLM Authorized Officer.
- Other opportunities, such as MOUs, water marketing, leasing, or other coordinated efforts, according to existing law.

Federal law as well as BLM policy directs how watersheds and water are managed. Additionally, the approved Carlsbad and Roswell Resource Management Plans stipulate how specific watersheds and water resource areas are managed. The current management objective for watersheds states that during periods of drought or other emergencies,

adjustments in livestock numbers will be made to guard against damage to vegetation and soil resources. Where soils and nontarget vegetation are disturbed, reclamation measures will be taken. These measures could include returning the land to as near its natural form as possible and reseeding with mixtures of grasses and forbs to prevent erosion. If any new roads or trails are proposed, they will be constructed only if existing roads and trails cannot be used, and then only after a site-specific environmental assessment has been prepared.

Air Quality

The management of public land would emphasize the maintenance of the Class II air quality in the Planning Area. Mitigations will be developed on a case-by-case basis to reduce or eliminate the effects of BLM-approved surface disturbing activities on air quality. Likewise, BLM-initiated activities, such as prescribed fires, will be designed to have minimal effect on air quality and to retain the Class II air quality standard.

Federal law as well as BLM policy directs how air resources are managed. Additionally, the approved Carlsbad and Roswell RMPs stipulate how specific air resource areas are managed. The current management objective for watersheds states that during periods of drought or other emergencies, adjustments in livestock numbers would be made to guard against damage to vegetation and soil resources. Where soils and nontarget vegetation are disturbed, reclamation measures will be taken. These measures could include returning the land to as near its natural form as possible and reseeding with mixtures of grasses and forbs to prevent erosion. If any new roads or trails are proposed, they would be constructed only if existing roads and trails cannot be used, and then only after a site-specific environmental assessment has been prepared.

The current management objective for soils is to provide benefits and prevent damage to other resources such as air quality by managing soil resources.

Vegetation

Goal: Manage resources to maintain or improve vegetation with the emphasis on watershed protection and forage for wildlife.

General management objectives, the composition of plant communities identified as a desired plant community (DPC), and practices proposed for use in meeting the management objectives and DPC are described below. In all cases, an ecological site must be capable of attaining the DPC through natural succession, management action, or both. The percentage-ranges of the various components shown in the following tables are guidelines. The accuracy of those ranges must be confirmed through use over a period of years and in a variety of pastures. The objectives in site-specific management plans will determine whether or not one or more components of the DPC are met. Successful management will concentrate on meeting at least one, but not necessarily both, of the vegetative community objectives (percent cover or cover by percent composition). Seeding mixtures under DPC will emphasize the use of native species and avoid noxious weeds and exotic species. Refer to Appendix 11 in the Draft Roswell RMP/EIS for more information on plant communities and the development of the DPC process. Currently, components of DPC have only been described for lands within the planning area that are managed by the Roswell Field Office.

Watershed, wildlife and livestock management objectives for each community are to improve vegetation composition and production in areas that currently do not meet the vegetation condition objectives, and to maintain vegetation condition in areas that do.

The standard practices that could be employed to meet a DPC will be based on thresholds and vegetation condition objectives described below for each community type. The specific practices to be used and the numbers of acres affected will be determined during activity planning, based on the results of resource monitoring. During activity planning, specific resource condition objectives will be developed for a distinct area (e.g., an allotment) based on the planned use of the area and the more general vegetation condition objectives developed in this land use plan.

The standard practices that will be employed to meet management objectives in each community are:

- Utilization levels not exceeding 45 percent of annual plant production. Utilization levels will be determined prior to green-up and measured on key forage species.
- Projects such as fences, exclosures, water developments, erosion control structures, reseeds, or vegetative sales.
- Grazing treatments such as rest, changes in season of use, class of livestock, or stocking rates.
- Vegetation treatments, including, prescribed fire or prescribed natural fire, and biological, chemical or mechanical controls.
- Constraints on treatments for each community are:
 - Within land managed by the Roswell Field Office, a project area will not be chemically treated until the chemical treatment of an adjacent project area has been in place at least 5 years.
 - Native, deciduous tree species in all plant communities, such as hackberry, black walnut, New Mexico walnut, and desert willow will be protected from vegetation treatments and surface disturbance.

The 1997 Roswell RMP adopted a DPC concept and characterized seven different plant communities within the Roswell Field Office area. Three of these communities are located within the Planning Area and are the Grasslands, Shinnery Oak/Dune, and Mesquite. Manageable thresholds were established and used to determine when brush control activities may occur. Wildlife habitat and populations are either positively or negatively influenced by the management of vegetation or by treatments conducted.

Map 3-4 identifies vegetative treatment areas.

Grassland Community

Table 3-1 shows Grassland Community vegetation condition objectives. Vegetation treatments to influence DPC will be considered at the following threshold levels for lands managed by the Roswell Field Office:

| | |
|-----------------|----------------------------------------|
| Mesquite | 50 plants/acre |
| Cholla | 100 plants/acre |
| Catclaw | 50 plants/acre |
| Creosote | 20% of the vegetative canopy |
| Lechuguilla | 20% of the vegetative canopy |
| Tarbrush | 20% of the vegetative canopy |
| Broom snakeweed | 25% by weight of vegetative production |
| Pinon/juniper | 50 trees/acre |

| TABLE 3-1 VEGETATION MANAGEMENT - GRASSLAND COMMUNITY | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------------------------------------|
| | Percent Cover | Vegetative Cover By Percent Composition |
| Grass/Forbs | 15 -52 | |
| Grasses | | 30 -85 |
| Forbs | | 10 -15 |
| Shrubs/Trees | 3 - 12 | |
| Shrubs | | 1 -10 |
| Bare Ground | 14-60 | |
| Small Rock/Large Rock | 0-30 | |
| Litter | 8 -44 | |
| SOURCE: Roswell RMP, 1997 | | |
| NOTE: An objective of vegetation composition management would be to include 10 genera of annual and perennial fall forbs preferred by pronghorn in pastures that support pronghorn or meet the Viability Index for transplants. Fall forb diversity is, in part, dependent upon precipitation, the size of the pasture, and stocking rates of domestic sheep. | | |

Shinnery Oak-Dune Community

Table 3-2 shows Shinnery Oak-Dune Community vegetation condition objectives.

The Shinnery Oak-Dune community type on about 195 of the 242 acres in the Mathers Research Natural Area will not be grazed by livestock. The entire Natural Area will be used for wildlife population and habitat studies. Those studies may entail vegetative treatments and DPC may not be reached. Likewise, DPC may not be reached in the Mescalero Sands North Dune OHV Recreation Area, which will be managed primarily for off-road vehicle recreational activities, and in the proposed Mescalero Sands ACEC, which will be managed according to the prescriptions for the ACEC.

Vegetation treatments to influence DPC in the shinnery oak-dune community will be considered at the following threshold:

| | |
|--------------|-----------------------------------------------|
| Mesquite | 50 plants/acre |
| Shinnery Oak | 40 percent of vegetative cover by composition |

Constraints on treatments in the shinnery oak-dune community are:

- Treatments may be conducted to achieve DPC objectives in areas that are not considered suitable or occupied habitat for special status species (e.g., the sand dune lizard). Suitable and

occupied habitat will not be chemically treated unless the species is removed from State or Federal listing, or an alternative treatment method is developed that would not impair habitat.

| TABLE 3-2 VEGETATION MANAGEMENT - SHINNERY OAK-DUNE COMMUNITY | | |
|------------------------------------------------------------------------------|---------------|-----------------------------------------|
| | Percent Cover | Vegetative Cover By Percent Composition |
| Grass/Forbs | 16 - 40 | |
| Grasses | | 50 - 70 |
| Forbs | | 10 -15 |
| Shrubs/Trees | 3 - 17 | |
| Shrubs | | 25 - 40 |
| Bare Ground | 5 - 20 | |
| Small Rock/Large Rock | 0-1 | |
| Litter | 25 - 70 | |
| SOURCE: Roswell RMP, 1997 | | |

Mesquite Grassland Community

Table 3-3 shows Mesquite Grassland Community vegetation condition objectives.

Vegetation treatments to influence DPC in the mixed desert shrub community will be considered at the following threshold levels:

| | |
|-----------------|----------------------------------------|
| Mesquite | 50 plants/acre |
| Catclaw | 50 plants/acre |
| Tarbush | 20% of the vegetative canopy |
| Broom snakeweed | 25% by weight of vegetative production |

| TABLE 3-3 VEGETATION MANAGEMENT - MESQUITE GRASSLAND COMMUNITY | | |
|-------------------------------------------------------------------------------|---------------|-----------------------------------------|
| | Percent Cover | Vegetative Cover By Percent Composition |
| Grass/Forbs | 11 - 28 | |
| Grasses | | 55 - 75 |
| Forbs | | 10 -20 |
| Shrubs/Trees | 6 - 15 | |
| Shrubs | | 15 - 20 |
| Trees | | 1 - 10 |
| Bare Ground | 10 - 40 | |
| Small Rock/Large Rock | 15 - 35 | |
| Litter | 1- 12 | |
| SOURCE: Roswell RMP, 1997 | | |

Non-Native and Invasive Species

The best guidance will be found in the 9011, 9012 BLM Manuals and the Vegetation EIS. In general, these documents state the inventory process should be ongoing to detect invasive populations when they are small. These populations will be aggressively controlled (chemical, mechanical, fire) to eliminate them or keep them small. High priority populations will be treated first, based on threat of increasing, manpower, funding, and time of year.

In general terms, the weed program consists of continual inventory being carried on by all field going personnel. Once a population is found, the BLM tries to coordinate with the land user and implement some kind of treatment to remove or control the population. Control methods can be chemical, mechanical, fire, or some combination of the three.

Treatment of weed species will be coordinated and conducted with county governments. Treatments of aggressive non-native vegetation or noxious weeds on public land will be designed to prevent their spread and to control infestations using an integrated pest management approach, based on predicted economic, ecological, and sociological effects. Chemical, mechanical, and biological methods of control will be considered. The design of projects, application of treatments, and monitoring of effects will be in accordance with the BLM's Environmental Impact Statement on Vegetation Treatment on BLM Lands and the Record of Decision for New Mexico. Chemical control can be hand applied, backpack or truck mounted spray, or aerially application. Mechanical control can be hand pulling, cutting/chopping using hand tools or chain saws, and pulling/pushing using mechanized equipment. Fire is used to control populations by burning the population or treating it first by chemical or mechanical means and then burning. An example of a combination treatment would be stump cutting salt cedar with chain saws, applying a chemical herbicide to the stump, piling the cut slash around the stump, then burning the area after the chemical has been allowed enough time to work. After treatment the population is monitored, and if necessary is re-treated until totally controlled/eradicated.

Reasonable development would include the actions above, with the Planning Area receiving priority work to keep noxious weeds out of the area and keep desirable habitat for the lesser prairie chicken and sand dune lizard.

Wildlife

BLM Activities and Wildlife Protection

The overall wildlife objective is to manage habitats on public land for the conservation and rehabilitation of fish, wildlife, and plant resources consistent with multiple use management principles under the guidance of the Roswell RMP (1997) and the Carlsbad Oil and Gas Amendment (1997).

All actions in the Field Office Areas are reviewed and given site-specific analysis during the environmental assessment (EA) process to determine whether the action will affect threatened or endangered species and special habitat sites and features. Also considered are impacts to resident species' habitat and habitat improvement projects. The livestock grazing program must include facilities that are designed for the protection or benefit to wildlife, such as designing proper fence construction to minimize impacts and making water available to wildlife year round in each pasture. Standard stipulations that require such wildlife protection/benefit measures are attached to all projects. Forage use demands for wildlife will still be factored in when establishing livestock carrying capacities. In those areas where other habitat needs are required additional management strategies may be used to reach the habitat goal.

Actions occurring in the Planning Area affect wildlife/Special Status Species habitat and populations in one form or another. The emphasis for this planning effort evolves around two candidate species (lesser prairie chicken, sand dune lizard). Current management decisions are not adequate at this time to reduce the threats to these species. A broad based stakeholders Conservation strategy for the lesser prairie chicken and sand dune lizard is

ongoing at this time. Strategies identified as a result of that work will be addressed in the alternatives for the RMPA.

Wildlife Population Management

The NMDGF is responsible for the management of wildlife populations. However, some monitoring is conducted by Federal personnel and coordination between state and Federal agencies is helpful in making sound management decisions. Starting in 2005, deer licenses within the Planning Area will be issued to hunters via the lottery system (draw). Depending upon the number of permits available, this could have an impact on the number of deer, improve habitat conditions, improve the quality of deer, and improve the quality of the hunt.

Animal Damage Control (Wildlife Services)

Animal damage control on public land is authorized by U.S. Department of the Interior policy under a Memoranda of Understanding with the Animal Plant Health Inspection Service's (APHIS) - Wildlife Services (WS). WS has the responsibility for overseeing the program and supervises all control activities. The BLM will coordinate with WS to provide for the welfare and perpetuation of wildlife and to be responsive to the needs of individuals or groups who use public land. Constraints on animal damage control in the Planning Area include:

- Non-emergency control activities on public land will be limited to grazing allotments in Chaves and Lincoln counties. Emergency control would be allowed on other allotments within the field office area following confirmation of livestock loss by WS and when a request for control is made to the BLM.
- Predator control operations will be permitted within authorized control areas identified each year during annual reviews of work plans for PDM. Planned predator control will occur only on allotments where a permittee or lessee rests control, where a loss has been reported or confirmed or there is a history of loss, and where APHIS-ADC has determined that a potential threat to vulnerable livestock is imminent. Control activities will be directed only at the depredating animal or local population, as appropriate. The following control methods will be allowed within authorized control areas: traps; snares; M-44s; calling; shooting; denning; aerial hunting; and livestock protection collars.
- In areas identified as swift fox habitat, which will be identified in the work plans for PDM, M-44s will not be used for control of predators, unless used as a tool of last resort in cases of confirmed active depredation where coyotes are likely to be the only animals taken. For purposes of this constraint, the area of concern is generally Chaves County, east of the Pecos River.
- M-44s will not be used during hunting seasons in quail and prairie chicken hunting areas designated in work plans for PDM. For purposes of this requirement, quail and prairie chicken hunting areas generally conform to Chaves County and an area in southeastern Lincoln County.

The use of control devices (e.g., M-44s, traps and snares) will not be allowed in the following human safety zones, unless required for protection of human health or safety:

- Within 1 mile of any residence unless the occupant requests or approves the use of control devices;
- Within 1 mile of any community;
- Within 300 feet of any state or Federal highway;
- Within 1 mile of any developed recreation site;
- Within 500 feet of BLM livestock or wildlife exclosures, water sources (e.g., tanks, streams, rivers, springs, or wildlife water developments) on public land;
- Within 300 feet of the Capitan and Big Tank/Eastwell horseback riding trails at Fort Stanton; and,
- Within 500 feet of entrances to caves in the Roswell Cave Complex ACEC or caves designated as significant under the Federal Cave Resources Protection Act.

Where control devices are used on public land, APHIS-ADC will be required to post signs to provide adequate warning of the presence of those devices. Signs will be installed at gates commonly used as access points, and at the site of the control device, if needed to ensure proper public notification.

The use of M-44s, when authorized (refer to requirements, above), will be conducted according to EPA restrictions on placement and use. Each M-44 device will be inspected at least once a week, weather and travel conditions permitting. Locations of M-44 devices and dates of installation will be available at the APHIS-ADC District Office. M-44s will be removed within 30-days following the cessation of livestock losses in emergency control zones. Preventive control will be authorized in planned control areas as provided in EPA use restriction #7.

The use of livestock protection collars will be authorized for use only during the lambing season (generally May through August) as a tool of last resort. The use of collars will be conducted in accordance with label and use restrictions. APHIS-ADC will provide monthly reports to the BLM documenting uses of collars.

All nontarget species trapped with control devices will be released provided they are capable of self-maintenance. In accordance with APHIS-ADC policy, all leg-hold traps would use pan tension devices that exclude small, nontarget species.

The BLM's Authorized Officer will, when needed, identify areas where ADC activities on public land should be restricted or where modification of permitted control areas should occur, when multiple-use management or public health or safety reasons dictate those actions.

Habitat Management

Several Habitat Management Plans (HMPs) were identified for revision within the Planning Area. The Caprock wildlife habitat management area encompasses approximately 562,000 acres of private, State trust, and public lands, with an emphasis on lesser prairie chicken, sand dune lizard and deer management. Approximately 96,000 acres of public land was identified in the Carlsbad RMP to have HMPs developed.

Other Management Strategies

Surface use and occupancy restrictions on oil and gas development and exploration were developed to protect wildlife habitat projects, raptor nests and heronries, playas, springs seeps and tanks, prairie chickens, sand dune lizard, and prairie dog towns are described in the current RMP (1997). Refer to the 1997 RMP Appendix 1 and Carlsbad Oil and Gas Amendment Appendix 1 for narratives.

Wildlife habitat will continue to be enhanced throughout the Planning Area by creating water facilities, reseeding, road closures/designations and designing vegetation treatments outlined in this RMPA or other activity plans. Wildlife escape devices will be installed on all new and existing water tanks and troughs built as per the 1997 RMP.

Implementation Of Current Management And Prescriptions

All actions in the Field Office Areas are reviewed and given site-specific analysis during the environmental assessment (EA) process to determine whether the action will affect threatened or endangered species and special habitat features. Also considered are impacts to resident species' habitat, and habitat improvement projects. Actions occurring in the Planning Area affect wildlife/Special Status Species habitat and populations in one form or another. The emphasis for this planning effort evolves around two candidate species (lesser prairie chicken, sand dune lizard). Current Management decisions are not adequate at this time to reduce the threats to these species. A broad based stakeholders Conservation strategy for the lesser prairie chicken and sand dune lizard is ongoing at this time. Strategies identified as a result of that work will be addressed in the alternatives for the RMPA.

Surface use and occupancy restrictions on oil and gas development and exploration were developed to protect wildlife habitat projects, raptor nests and heronries, playas, springs seeps and tanks, prairie chickens, sand dune lizard, and prairie dog towns are described in the current RMP (1997). Refer to the 1997 RMP Appendix 1 and Carlsbad Oil and Gas Amendment Appendix 1 for narratives.

Wildlife habitat will continue to be enhanced throughout the Planning Area by creating water facilities, reseeding, road closures/designations and designing vegetation treatments outlined in this RMPA or other activity plans. Wildlife escape devices will be installed on all new and existing water tanks and troughs built as per the 1997 RMP.

Livestock grazing management will incorporate the needs of primary plant species as important to wildlife. Implementation of the Rangeland Health Assessments/ Standards and Guidelines which incorporate wildlife habitat needs is currently being completed. Those indicators or causal factors that are not meeting the standards will be addressed, with changes being made within a separate decision document. Monitoring specifically designed to monitor the suitability and availability of lesser prairie chicken nesting habitat (referred to as the Robel Pole) was initiated in 1999. This data is used to adjust grazing pressure in lesser prairie chicken pastures and is established as Terms and Conditions to the grazing permit. See Table 3-5 for requirements set forth in the Terms and Conditions.

| TABLE 3-5 ROBEL POLE HABITAT PARAMETERS |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Shrub Coverage = 25 – 30% of the entire vegetative community |
| Forb Coverage = 15% of the entire vegetative community |
| Grass coverage = 50 – 60% of the entire vegetative community, 10% with a Visual Obstruction Reading (VOR) > 13 inches. The overall average = 4 inches. |
| SOURCE: Interstate Working Group Lesser Prairie Chicken Conservation Strategy, 1999 |

Rangeland management practices and improvements will be designed or modified to maintain or improve wildlife habitat. This includes location and design of waters and vegetation manipulation projects

Livestock Grazing

BLM administers the grazing program in the Decision Area under provisions of the Taylor Grazing Act (TGA) of 1934, FLPMA, and the Public Rangelands Improvement Act (PRIA) of 1978. These laws direct BLM to authorize and manage livestock grazing on public land under the principles of multiple use/sustained yield and to prevent the degradation of the rangeland resources by providing for their orderly use, improvement, and development. Specifically, the TGA provides that the Secretary of the Interior is authorized to establish grazing districts from any part of the public domain of the United States (exclusive of Alaska) which, in the Secretary's opinion, are chiefly valuable for grazing and raising forage crops, to regulate and administer grazing use of the public land, and to improve the public rangelands.

The TGA was enacted to prevent overgrazing and soil deterioration and to provide for their orderly use, improvement and development; to stabilize the livestock industry dependent upon the public grazing; and for other purposes. The TGA states that the privileges recognized and acknowledged shall be adequately safeguarded, but the creation of a grazing district or the issuances of a permit pursuant to the provisions of this act shall not create right, title, interest, or estate in or to the land. Among other things, PRIA established a National policy and commitment to improve the conditions on public rangelands, required a National inventory and consistent Federal management policies, and provided funds for range improvement projects.

PRIA established the formula by which the Secretaries of Agriculture and the Interior were to charge fees for domestic livestock grazing on public rangeland for the grazing years 1979-1985. Executive Order 12548, signed February 14, 1986, extended the use of this formula beyond 1985, setting a minimum of \$1.35 per animal unit month (AUM). The Act specified that no less than 80 percent of funds appropriated for the Act must be used for on-ground range rehabilitation, construction and maintenance of range improvements, and training of personnel. PRIA also directed the Secretaries of Agriculture and the Interior to develop and implement an experimental program to provide incentives or rewards to holders of grazing permits and leases whose stewardship results in improved range conditions.

Current Management Direction in BLM's Decision Area

BLM's Final Grazing Management Policy was established in 1982 and is now incorporated in the BLM Handbook's identified goals and objectives. The intent of the policy is to make the grazing management program more efficient and cost effective by use of a selective management approach. This is accomplished by assigning management priorities among

allotments within a Decision Area based on similar resource characteristics, management needs, and both resource and economic potential for improvement.

BLM New Mexico Standards for Public Land Health and Guidelines for Livestock Grazing Management

BLM recently published the *New Mexico Standards for Public Land Health and Guidelines for Livestock Grazing Management* (April 2000), which adopts standards for public land health and guidelines for livestock grazing management in New Mexico. The standards describe conditions needed for healthy, sustainable public rangeland and relate to all uses of public land. The 21 Standards provide the measure of resource quality and functioning condition upon which public land health will be assessed.

In order to measure the effectiveness of each standard, a set of measurable indicators and associated criteria were identified. Specific standards and indicators are defined for upland sites, biotic communities (including native, threatened, endangered, and special status species) and riparian sites. For example, standards for riparian sites indicate that these areas should be in a “productive, properly functioning, and sustainable condition, within the capability of that site” and should consist of “adequate vegetation of diverse age and composition.” Indicators for these standards include factors that determine stream channel morphology and stability, stream bank stability, and structural diversity of vegetation.

The livestock grazing guidelines were designed to improve public land health and are to be implemented at the watershed, allotment, or pasture level. These guidelines define resource values that should be incorporated into the development of Livestock Grazing Management Plans, such as native plant health, soil stability and micro-organisms, water quality, stream channel morphology and function, and habitat for native wildlife including special status, threatened and endangered species.

Selective Management Categorization

All allotments have been placed into one of three management categories based on resource characteristics, management needs, and resource and economic potential. The three selective management categories are: Maintain (M), Improve (I), and Custodial (C). “M” category allotments are to be managed to maintain the current satisfactory condition. “I” category allotments are to be managed intensively to improve unsatisfactory conditions and/or resolve resource conflicts. “C” category allotments have either low potential for improved ecological condition, improvement is not economically feasible, and/or current management is satisfactory considering the current resource conditions. These allotments are to be managed to prevent resource degradation.

Monitoring Studies

BLM monitors rangeland resources to evaluate the effectiveness of implementing season-of-use management, rangeland improvements, vegetative land treatments, and livestock stocking rates. Any necessary adjustments to stocking rates and other management practices are based on the monitoring studies and consultation with the permittee. A total of 386 monitoring studies have been established on 84 allotments in the Planning Area. These studies collect data on livestock use, forage production and utilization, climatic data, and ecological condition and trend. The intensity and frequency of monitoring efforts vary with selective management

categories, with “I” category allotments monitored at a greater intensity and frequency than “M” and “C” allotments.

Percent cover of indicator species and population trend is compared to this baseline data as each allotment undergoes NEPA analysis for permit/lease renewal. To date, approximately 26 allotments have undergone NEPA review and ecological trend has been described as “static” or “improving” on most allotments. Allotments containing wetlands or sensitive species habitats are assigned first priority for NEPA review.

Allotment Management Plans

BLM guidance directs allotment management plans (AMPs) to include a grazing system that will provide periodic rest from livestock grazing. Examples of such systems include rest-rotation, deferred, deferred-rotation, rotation grazing, and Savory Grazing Method or Holistic Resource Management. They also lay out plans for rangeland improvements, distribution of livestock, salting, and vegetative land treatments. The development of an AMP shall take into consideration factors such as permittee needs, level of management, vegetation objectives, the degree and type of resource conflicts, and initial implementation costs. Plans are to be prepared in accordance with Section 8 of PRIA, in “careful and considered consultation, cooperation, and coordination” with affected permittees and other interested parties (target group). Involvement of the target group is at the request of the permittee. The target group consists of landowners such as the State Land Commissioner or other lessees, New Mexico Department of Agriculture; NMDGF, Range Improvement Task Force; NRCS; and Forest Service.

Although AMPs have been prepared for 36 allotments within the Planning Area, most are over 15 years old. As such, all but one does not address lesser prairie chicken or sand dune lizard and most likely need revision. The revision should address livestock management to protect species habitat and populations and modify the old grazing scheme to reflect current or proposed actions.

Livestock Use Adjustments

Adjustments to livestock use are based on monitoring studies and through consultation with the permittee. Adjustments may include changing the kind and class of livestock, season of use, number of livestock, or grazing patterns. Allocation of long-term increases in vegetation generally will be 50 percent to wildlife and watershed and 50 percent to livestock. Allocations may vary among allotments depending on resource conflicts and will be based on site-specific analysis and multiple-use objectives.

Rangeland Improvements

Rangeland improvements are to be conducted in accordance with priorities established through benefit/cost analysis and must meet design specifications and standard operating procedures. First priority for improvements is to be given to “allotments that do not meet the Standards for Public Land Health and Guidelines for Livestock Grazing. Contributions for improvements in the form of labor, material, equipment, and/or money are to be encouraged and a factor in determining priority ranking for allocating funds. Vegetation treatments are to be conducted to control undesirable vegetation or increase desirable vegetation consistent with multiple-use objectives. Areas potentially suitable for treatment have been identified in the Planning Area and will be refined during site-specific analysis. Chemical treatments, prescribed burns, and

mechanical removal of undesirable vegetation have been conducted in the Decision Area over the last 20 years.

Goal: Provide effective and efficient management of allotments to maintain, improve, and monitor range conditions.

Allotment categorization and initial grazing use allocations made in the East Roswell Grazing Environmental Impact Statement (1979), the Carlsbad Resource Management Plan/Environmental Impact Statement (1988), and the Roswell Resource Area Management Framework Plan Amendment/Environmental Impact Statement (1984) will be used as the basis for continued livestock grazing. Changes in use allocations will continue to be made on the basis of monitoring data. Livestock grazing management decisions from previous land use plans, and the disposition of those decisions, are discussed in Appendix 8.

Livestock grazing following vegetative treatments will be deferred for a time period established in conjunction with the treatment method. In areas where shinnery oak is not treated, adjustments in livestock numbers, or other changes, will be considered, and implemented, if needed, to avoid conflicts with the management of habitat for the lesser prairie chicken and the sand dune lizard. Livestock grazing will also be deferred in areas burned by wildfires, if needed. The time periods for deferments will be determined on a case-by-case basis, after considering factors such as the extent of the fire, the type of vegetation burned, the intensity of the fire, and vegetation management objectives.

Since population numbers and habitat for both the lesser prairie chicken and sand dune lizard can be impacted by livestock grazing, management strategies have been implemented on allotments within the Planning Area. The strategies include changing the time of year certain pastures are grazed, reducing allowable utilization levels, implementing pasture rotation schemes, and reducing the number of livestock authorized to use public land.

Rangeland improvements and vegetation treatments will continue to be implemented to improve or maintain forage production and range condition, in an effort to achieve the DPC. Wildlife habitat and watershed management needs will be emphasized.

Specific grazing systems will be developed, in coordination with permittees, on allotments in the Caprock Wildlife Habitat Area to meet DPC objectives.

In the Mathers Research Natural Area (RNA), the area closed to livestock grazing will be increased from about 91 acres to about 195 acres. Livestock grazing in the RNA will be allowed east of the access road and south of the east-west fence that roughly follows the south boundary of the RNA.

Standards for Rangeland Health and Guidelines for Grazing Management

The standards and guidelines will be implemented in the Planning Area to develop a more effective partnership between the ranching industry and the BLM. Among the changes resulting from the new grazing regulations and the standards and guidelines will be the opportunity for management plans to be developed by grazing permittees and lessees, or other involved parties, in addition to the BLM. Also, ranchers will play a significantly greater role in gathering basic rangeland monitoring data on which local management decisions would be based, and in evaluating the effectiveness of livestock grazing management plans.

Fire Management

The RMPA for Fire and Fuels Management (BLM 2004) establishes the Desired Future Condition of the landscape is Fire Regime Condition Class 1. This Amendment focuses treatments on improving landscape health through treating lands in Fire Regime Condition Classes 2 and 3 while maintaining conditions in Fire Regime Condition Class 1.

The RMPA for Fire and Fuels Management also describes four fire management categories. Within the Carlsbad Field Office portion of the Planning Area, the fire management category is C. Within the Roswell Field Office portion of the Planning Area, the fire management category is D.

The RMPA for Fire and Fuels Management describes the categories as:

“Category C: Areas where wildland fire is desired, but there are significant constraints on its use. These are areas where significant ecological, social or political constraints (such as air quality, threatened and endangered species, or wildlife habitat considerations) limit wildland fire use.

Category D: Areas where wildland fire is desired, and there are few or no constraints on its use. These are areas where unplanned and planned wildland fire may be used to achieve desired objectives such as to improve vegetation, wildlife habitat or watershed conditions.”

Hazardous Materials

Hazardous materials management on public land emphasizes the prevention of spills and releases of hazardous materials to the environment. Releases and spills are mitigated on a case-by-case basis.

Cultural Resources

Current Management Guidance and Prescription

Federal law as well as BLM policy direct how cultural resources are managed. Additionally, the approved Carlsbad and Roswell RMPs stipulate how specific cultural areas are managed. The Carlsbad RMP identifies three special management areas that are located within the Planning Area. These areas are the Poco Site, Laguna Plata and Maroon Cliffs. The management objective for all three areas is to protect and preserve the important and sensitive cultural resource values for research. The management prescriptions vary somewhat between these three areas.

Poco Site

1. Restrict surface disturbance and apply the special stipulation: No surface disturbance until a representative sample of the entire site is excavated.
2. Designated limited to ROW use to designated routes and implement plan to enforce designation.
3. Restrict fire suppression to conform to ORV designation.

Laguna Plata

1. Apply No Surface Occupancy (NSO) stipulation to oil and gas leases – 3,360 acres.
2. Avoid future right-of-way actions – 3,360 acres.
3. Close to solid mineral leasing, except existing potash leases which require extensive excavation (3,360 acres) to mitigate the adverse effects to cultural resources.
4. Close to mineral material disposal – 3,360 acres.
5. Restrict surface disturbance to prevent impacts to cultural resources.
6. Designate 1,120 acres closed and 2,240 acres limited (to designated routes) to ORV use and implement plan to enforce designations.
7. Restrict fire suppression and geophysical exploration to conform to ORV designations.
8. Manage under VRM Class III objectives – 3,360 acres.
9. Attempt to acquire 1,280 acres of State Land.

Maroon Cliffs

1. Apply NSO stipulations to 1,880 acres of future oil and gas leases.
2. Apply special stipulation for solid mineral leasing: New leases or reissuance of existing leases will require mitigation of adverse effect to cultural resources through extensive excavation – 11,783 acres.
3. Close to mineral material disposal – 11,783 acres.
4. Restrict surface disturbance to prevent impacts to cultural resources – 11,783 acres.
5. Designate limited to ORV use to designated routes and implement plan to enforce designation – 11,783 acres.
6. Restrict fire suppression and geophysical exploration to conform to ORV designation.

In the 1960s and 1970s, steps were taken to nominate to the National Register of Historic Places 33 prehistoric sites in T. 12 S., R. 30 E., sections 11 and 12 and T. 12 S., R. 31 E., section 7. These sites were recorded as campsites of the Querecho Phase of the Jornada Mogollon (950-1100AD). Apparently the nomination process was never completed for the Mescalero Sands Archeological District. The National Register does not list this nomination in the Register.

The majority of the sites recorded to date in Mescalero Sands have been early Ceramic in age with the remainder being late Archaic. An archeologist named Lehmer constructed a sequence for the ceramic period. This sequence was modified by two archeologists named Corley and Leslie. This sequence is given below.

| |
|----------------------------------------------------------------------------------|
| AD 1500 Post Ochoa Phase |
| AD 1400 Ochoa Phase surface rooms are present |
| Area is abandoned for 50 or so years |
| AD 1100 or 1150 to 1300 Maljamar Phase pit houses present |
| AD 950 – 1100 Querecho Phase generally named ceramics, arrow points, groundstone |
| AD 500 – 900 preceramics |

It is believed that the reason for prehistoric occupation in the Mescalero Sands was to take advantage of seasonal foodstuffs. Most of the sites are described as campsites. Even though site density is fairly high and survey recording has identified a significant amount of site information, the information reflects the surface manifestations of the occupations. Subsurface

investigation is rarely undertaken due to expense. Until more site excavation occurs, the archeological picture will remain unclear.

There are two standard stipulations for Conditions of Approval:

1. Any cultural and /or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.
2. The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of project implementation. In the event that any of the cultural items listed above are discovered during course of project work, the proponent shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The proponent or initiator of any project shall be held responsible for protecting, evaluating, reporting, excavating, treating and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes.

Implementation of Current Management and Prescriptions

The Roswell and Carlsbad Field Offices together manage approximately 13,835,000 acres of Federal minerals. The Federal acreage of the proposed Planning Area is approximately 1,337,000 acres. The planning area then represents about 10 percent of all of the Federal minerals managed by Roswell and Carlsbad BLM. Roswell archeological records show about 400 sites have been recorded on BLM minerals in the Roswell BLM jurisdiction and about 2,334 sites recorded in the Carlsbad BLM jurisdiction.

The 1994 Draft RMP states that an average of 74 oil and gas wells are drilled in the Roswell Field Office jurisdiction and 243 wells are drilled in the Carlsbad Field Office jurisdiction per year on Federal minerals. This figure is based on past drilling over an 18 year time period. An 18 year cycle includes one "boom" period and one "bust" period of oil and gas development. Using the combined acreage of both Field Offices instead of existing oil and gas well figures for the Planning Area, a projection of 7.4 wells per year in the Roswell jurisdiction and 24.3 wells in the Carlsbad jurisdiction might be realistic. The Planning Area has moderate to high hydrocarbon possibilities compared to low to high over the rest of the Pecos District. Oil and gas development is higher in the Planning Area than the remainder of the Pecos District.

Archeological surveys for Federal undertakings have been required since the late 1970s. Certainly, wells were drilled prior to cultural survey requirements. For the Roswell jurisdiction, approximately 400 sites have been recorded on Federal minerals since 1978. This amounts to an average over 26 years of just over 15 sites per year. For the Carlsbad jurisdiction, approximately 2,334 sites have been recorded on Federal minerals since 1978. This amounts to an average over 26 years of just over 89 sites per year. It is likely that future development

would result in a higher number of sites being recorded because the BLM requires a wider linear corridor cultural survey and larger well pad surveys which increase the chance of finding sites. The increased survey space has been in effect for approximately 10 years.

Paleontological Resources

Federal law as well as BLM policy directs how paleontological resources are managed.

Table 3-5 explains the BLM's policies that govern fossil collecting on public or Federal land. The BLM has a multiple use mission. Therefore, some fossils (vertebrates) are preserved for scientific study, while other fossils (plants and common invertebrates) are generally available for recreational and educational use. The BLM collection policies make it possible for the BLM to meet a variety of needs for research, public education, and recreation. The BLM has a restriction of vertebrate fossil collecting to qualified personnel only.

| TABLE 3-5 PRACTICES OF THE DEPARTMENT OF INTERIOR FOR COLLECTING FOSSILS | | | | |
|-------------------------------------------------------------------------------------------|---------------------------------------------------------|--------------------|---------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| Agency | Invertebrates | Vertebrates | Petrified Wood | Other Fossil Plants |
| BLM | Reasonable amounts for personal use, no permit required | Must have a permit | Up to 25 lbs/day/person + 1 piece; not to exceed 250 lbs/year, for noncommercial use. BLM treats petrified wood as a mineral material | Reasonable amounts for personal use, no permit required |

| TABLE 3-6 REQUIREMENTS FOR OBTAINING A SCIENTIFIC COLLECTING PERMIT | | | | |
|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| Agency | Qualifications | Permit Types | Other | Repository |
| BLM | Graduate degree in paleontology or related topics; or equivalent experience with one who meets that standard | Survey/limited surface collection (<1 sq m disturbance;) or excavation (1 sq m surface disturbance or more) | Reports required annually and at the end of project. Work in Special Mgmt Areas requires additional reviews | Designated by permit applicant; must meet DOI/BLM standards |

Geologic formations which are known to contain or have a high potential to contain vertebrate paleontological resources in the Roswell and Carlsbad Field Office Areas proposed prairie chicken and sand dune lizard ACEC (geologic formations identified below are taken from the Geologic Map of New Mexico – New Mexico Bureau of Geology and Mineral Resources 2003) include:

- Eolian Deposits, Qe (Holocene to middle Pleistocene)
- Eolian Deposits and Piedmont Deposits, Qep (Holocene to middle Pleistocene)
- Ogallala Formation, To (Lower Pliocene to middle Miocene)
- Piedmont Alluvial Deposits, Qp (Holocene to lower Pleistocene)
- Lacustrine and Playa Deposits, Opl (Holocene to Pleistocene)

- Older Alluvial Deposits of upland plains, and piedmont areas and clastic soils and eolian cover sediments, Qoa (Middle to Lower Pliocene) Includes scattered lacustrine, playa, and alluvial deposits.
- Pleistocene Spring and Lacustrine deposits identified in Geology and Geoarchaeology publications.

Approximately 99 percent of the geologic rock outcrops and geologic surficial deposits that occur in the Roswell and the Carlsbad Field Office Areas proposed prairie chicken and sand dune lizard ACEC have the potential to contain vertebrate paleontological fossils. All lacustrine, spring, playa, and alluvial deposits have the potential to contain invertebrate paleontological fossils.

Additionally, the Roswell RMP and the Carlsbad RMP Amendment stipulate how paleontological resources discovered on public land or Federal land are managed. The Roswell RMP and the Carlsbad RMP Amendment states in a standard stipulation for Conditions of Approval:

Any cultural and /or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized officer after consulting with the holder.

Implementation of Current Management and Prescriptions

The Roswell and Carlsbad Field Offices together manage approximately 13,835,000 acres of Federal minerals. The Federal acreage of the Planning Area is approximately 1,337,000 acres. The Planning Area then represents about 10 percent of all of the Federal minerals managed by Roswell and Carlsbad BLM. Roswell and Carlsbad archeological/paleontological records show that several paleontological sites have been recorded on BLM public land in both Field Office Areas jurisdiction.

The 1994 Draft RMP states that an average of 74 oil and gas wells are drilled in the Roswell Field Office jurisdiction and 243 wells are drilled in the Carlsbad Field Office jurisdiction per year on Federal minerals. This figure is based on past drilling over an 18 year time period. An 18 year cycle includes one "boom" period and one "bust" period of oil and gas development. Using the combined acreage of both field offices instead of existing oil and gas well figures for the Planning Area, a projection of 7.4 wells per year in the Roswell jurisdiction and 24.3 wells in the Carlsbad jurisdiction might be realistic. The Planning Area has moderate to high hydrocarbon possibilities compared to low to high over the rest of the Pecos District. Oil and gas development is higher in the Planning Area than the remainder of the Pecos District.

Archeological surveys for Federal undertakings have been required since the late 1970s. Certainly, wells were drilled prior to cultural survey requirements. Archaeologists are required to survey for paleontological resources as well as cultural surveys. Paleontological resources have been identified in surveys associated with oil and gas development, mineral pit development, and pipeline development in the Roswell and the Carlsbad Field Office Areas. It is likely that

future development would result in an increased number of paleontological sites being discovered and recorded because the BLM requires a wider linear corridor cultural survey and larger well pad surveys which increase the chance of finding sites. The increased survey space has been in effect for approximately 10 years.

Recreation

The 1988 Carlsbad RMP on page 31 identifies the Resource Objectives, which state that a wide range of outdoor recreation opportunities would be provided for all segments of the public, commensurate with demand. Trails and other means of public access would be maintained and developed where necessary to enhance recreation opportunities and allow use of the public land.

The Roswell RMP states the Recreation Management Goal for the Planning Area is to ensure the continued availability of outdoor recreation opportunities and experiences; to protect the health and safety of visitors and natural, cultural, and other resource values; and to stimulate public enjoyment of public land and resolve user conflicts.

On page 53 of the Roswell RMP, Table 24, Summary of Visual Resource Management and Recreation Opportunity Spectrum Acreages in Special Resource Management Areas, Roswell Resource Area, identifies the Special Management Areas contained in the RMPA/EIS. They are:

- Mescalero Sands North Dune OHV
- Mescalero Sands ACEC
- Mescalero Sands ONA
- Mescalero Sands Recreation Complex
- Mathers RNA

The Roswell RMP identifies the acreages of the Mescalero Sands ACEC and the Management goal. The RMP states in part that the Mescalero Sands ACEC comprises 10,007 surface acres and 7,931 acres of Federal mineral estate. The surface acreage consists of the following categories and acreages:

- Public Land, 7,888 acres
- State Trust Land, 1,799 acres
- Private Land, 320 acres

The management goal of the ACEC is to protect the biological, archaeological and scenic qualities of the Mescalero Sands ACEC, with emphasis on the preservation of a portion of the shinnery oak-dune community to enhance the biodiversity of the ecosystem.

The 1997 Roswell RMP includes expanding the Mescalero Sands North Dune OHV Area to 1,505 acres.

Visual Resources

The Roswell RMP identifies the goals and objective of Visual Resource Management (VRM), as managing public land to protect and maintain the quality of the scenic visual values of the land, while allowing for livestock grazing, mineral development and production, and other uses. The

objective is to manage to meet the VRM classes. All proposed management activities would be evaluated with regard to Visual Resource Management, and those projects that are compatible with the character of the natural landscape would be encouraged.

The Carlsbad RMP states that proposed activities and projects will be evaluated for consistency with VRM objectives. The impacts of each action would be determined in site-specific Environmental Assessments (EAs) prior to implementation. The EAs would analyze the project significance, the visual sensitivity of the affected area, and the project impacts. Stipulations will be attached as appropriate to ensure compatibility of projects with management objectives for visual resources. Painting requirements will be implemented for surface facilities in accordance with established policy. Activities may be modified to blend with the characteristic landscape.

Off Highway Vehicle (OHV) Management

The Roswell RMP identifies the goal to managing OHVs, which is to manage OHV use to provide adequate access and reduce adverse impacts on sensitive resource values and to provide quality recreational opportunities for OHV users in conjunction with demand and safety concerns.

The 1988 Carlsbad RMP states that all public land in the Carlsbad Resource Area have been designated either limited, closed, or open for Off-Road Vehicle (ORV) use. Emergency ORV limitations may be imposed in problem areas. Due to the age of the Carlsbad RMP, the OHV designations do not conform to current guidance and policy.

Map 3-5 show off-highway vehicle designations.

Special Management Areas

Map 3-6 shows special designation areas within the Planning Area.

As detailed in the 1988 Carlsbad RMP, the management direction for the Laguna Plata Archeological District is as follows:

- Apply no surface occupancy (NSO) to oil/gas leases
- Avoid future right-of-way action
- Close to new solid mineral leasing and disposal of mineral materials
- Designate 1,120 acres as closed to ORV use and 2,240 as limited to designated routes for ORV use.

The 1998 Carlsbad RMP and 1997 Carlsbad RMP Amendment detail the management direction for the Maroon Cliffs Archeological District as follows:

- Apply NSO on approximately 6,840 acres of which approximately 2,480 acres are within the Planning Area
- No new oil & gas leasing on 10,880 acres of which 2,280 acres are within the Planning Area
- Close the district to solid mineral leasing and to the disposal of mineral materials
- Designate the entire district as limited to designated routes for ORV use

The Carlsbad RMP details the management direction for the Poco Site as follows:

- Apply NSO to the site until a representative sample of the entire area is excavated.
- Designate the site a limited to designated routes for ORV use.

The 1988 Carlsbad RMP details the management of Hackberry Lake ORV area as follows:

- Apply oil/gas lease stipulations to protect ORV trails and camping areas
- Require special recreation permits to authorized competitive or commercial motorcycle events

The 1997 Roswell RMP details the management of the Mathers RNA as follows:

- Closed to new oil/gas leasing, solid mineral leasing, and the disposal of mineral materials
- Withdrawn from mineral entry
- Closed to OHV use
- Approximately 195 acres of the 242 acres are closed livestock grazing
- Exclude major rights-of-way from the RNA

As stated in Chapter 2, the Mescalero Sands North Dune OHV Area is the only area in the Field Office designated as open to OHV use. Approximately 562 acres are actively managed for this use, however, the 1997 Roswell RMP states the OHV area will be enlarged to approximately 1,553 acres. This enlargement has not taken place. Table 22 of the Roswell RMP lists 1,548 acres of the OHV area as open to OHV use. Management details for the OHV area are:

- Apply NSO to 1,548 acres of the OHV area
- Close the OHV area to solid mineral leasing and the disposal of mineral materials
- Avoid permitting major rights-of-way in the OHV area

The 1997 Roswell RMP established the Mescalero Sands ACEC. Management details are as follows:

- Closed to new oil & gas leasing, solid mineral leasing, and the disposal of mineral materials
- Withdrawn from mineral entry
- Approximately 2,438 acres are designated as Closed to OHV use and the remainder of the ACEC is designated as limited to designated roads and trails for OHV use
- Exclude major rights-of-way from the ACEC
- Approximately 2,438 acres of the ACEC has no grazing preference allocated.

Social and Economic Values

The social and economic implications of BLM management of public land in the Planning Area are most directly influenced by the FLPMA and Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. Implementation of FLPMA influences the social structure and local economies from the provisions for public land to be generally retained in Federal ownership; for periodic and systematic inventory of the public land and their resources; for a review of existing withdrawals and classifications; for establishing comprehensive rules and regulations for administering

public land statutes; for multiple-use management on a sustained yield basis; for protection of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archaeological values; for receiving fair market value for the use of the public land and their resource; for establishing uniform procedures for any disposal, acquisition, or exchange; for protecting areas of critical environmental concern; for recognizing the Nation's need for domestic sources of mineral, food, timber, and fiber from the public land; and for payments to compensate States and local governments for burdens created as a result of the immunity of Federal lands from State and local taxation.

EO 12898 requires Federal agencies make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. This EO is tied to the Civil Rights Act of 1964.

Interim Management

Goal - Maintain existing habitat and management options in the shinnery oak-sand dune habitat complex until the Resource Management Plan Amendment (RMPA) for special status species is approved. Interim management would be applied in what is now the Planning Area for the RMP Amendment.

Objectives for Interim Management

- Maintain existing habitat for the lesser prairie chicken and sand dune lizard and preclude degradation of suitable habitat until planning process addresses the issue.
- Support strategies that conserve the lesser prairie chicken and sand dune lizard and assist in precluding the need for listing either species as threatened or endangered.
- Leave the options open for recovery of both species.
- Involve interested parties and stakeholders using the 4 C's.
- Work within existing authorities and plans.

Maps 3-7 and 3-8 show the Prairie Chicken Core Area and Lizard Habitat, respectively. Appendix B contains the detailed Management Plan, Best Management Practices and Maps associated with Interim Management.

Chapter 4

CHAPTER 4

MANAGEMENT OPPORTUNITIES

INTRODUCTION

| CARLSBAD RMP DECISIONS IN THE SPECIAL STATUS SPECIES RMP AMENDMENT PLANNING AREA | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|------------------------------------------------------|-------------------------------------------|
| PLANNING DECISION | IS DECISION RESPONSIVE TO CURRENT ISSUES? (Y/N) | REMARKS (RATIONALE) | OPTIONS FOR CHANGE |
| Laguna Plata SMA – NSO for oil & gas lease, closed to solid mineral leasing (except existing potash lease), closed to disposal of mineral materials & avoidance of rights-of-way | Y | Prevents surface disturbance & habitat segmentation | None anticipated at this time |
| Laguna Plata OHV Designations – 1,120 acres closed to OHV use & 2,240 acres as limited to existing roads & trails, rights-of-way avoidance area | Y | Mitigates surface disturbance & habitat segmentation | None anticipated at this time |
| Maroon Cliffs SMA – within the Planning Area, 2,280 acres closed to future oil & gas leasing, 2,480 acres leasing with NSO, closed to disposal of mineral materials, OHV use limited to existing roads & trails, & rights-of-way avoidance area | Y | Prevents surface disturbance & habitat segmentation | None anticipated at this time |
| Poco Site SMA – NSO for oil & gas leasing, OHV use designated as limited to existing roads & trails, & rights-of-way avoidance area | Y | Prevents surface disturbance & habitat segmentation | None anticipated at this time |
| Bear Grass Draw SMA – OHV use designated as limited to existing roads & trails, & rights-of-way avoidance area | Y | Prevents surface disturbance & habitat segmentation | None anticipated at this time |
| Hackberry Lake ORV Area SMA – open to OHV use, & rights-of-way avoidance area | Y | Mitigates surface disturbance & habitat segmentation | None anticipated at this time |
| OHV Use in the Planning Area – unless noted above, the Planning Area is open to OHV use | N | Decision may not conform to current guidance | Explore options for changing the decision |
| Lands for Waste Isolation Pilot Plant Withdrawn – no livestock grazing, oil & gas development, disposal of mineral materials, or solid mineral leasing | Y | | None |
| Vegetation Treatment will be applied as needed to achieve health rangeland standards | Y | Mitigates surface disturbance & resource impacts | None anticipated at this time |

**CARLSBAD RMP DECISIONS IN THE SPECIAL STATUS SPECIES
RMP AMENDMENT PLANNING AREA**

| PLANNING DECISION | IS DECISION RESPONSIVE TO CURRENT ISSUES? (Y/N) | REMARKS (RATIONALE) | OPTIONS FOR CHANGE |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|-------------------------------------------|
| Revise AMPs so that livestock forage is available on a sustained basis, commensurate with public land health standards, and to incorporate rest periods to meet needs of key forage plants. | Y | Allows necessary changes, mitigates surface disturbance & resource impacts | None anticipated at this time |
| Develop Grazing Systems designed to affect the objectives of New Mexico Standards for Public Land Health and Guidelines for Livestock Grazing Management. | Y | Allows necessary changes, mitigates surface disturbance & resource impacts | None anticipated at this time |
| Prairie Chicken Habitat - No drilling & 3-D geophysical exploration operations allowed between March 15 through June 15. Other activities that produce noise or involve human activity are allowed except between 3:00 a.m. and 9:00 a.m. The 3:00 a.m. to 9:00 a.m. restriction does not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during the period. | Y | Timing restriction during mating period | None anticipated at this time |
| Prairie Chicken - no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. | N | Protects known areas from surface disturbance but doesn't protect habitat for population expansion | Explore options for changing the decision |
| Prairie Chicken Noise Restriction - Exhaust noise from pump jack engines must be muffled & not to exceed 75 db measured at 30 feet from the source of the noise. Exceptions will be considered for areas of no or low prairie chicken booming activity, or unoccupied habitat, including leks. | Y | Noise restriction during mating period | None anticipated at this time |
| Sand Dune Lizard: No surface disturbance allowed in documented occupied habitat areas, or within up to 100 meters of suitable habitat associated with occupied habitat. Exceptions will be considered when an on-site evaluation of habitat extent, available species occurrence data, the proposed surface use, and proposed mitigations indicate the proposal will not adversely affect the local population. | Y | Protects occupied and adjacent suitable habitat from surface disturbance. | None anticipated at this time |

| CARLSBAD RMP DECISIONS IN THE SPECIAL STATUS SPECIES RMP AMENDMENT PLANNING AREA | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|--------------------------------------------------------------------|-------------------------------|
| PLANNING DECISION | IS DECISION RESPONSIVE TO CURRENT ISSUES? (Y/N) | REMARKS (RATIONALE) | OPTIONS FOR CHANGE |
| Prairie Dog Towns: No surface disturbance allowed on public lands within known prairie dog towns or towns identified in the future. Exceptions will be considered for maintaining existing structures or facilities. Prairie dog control will not be authorized except in emergency situations involving public health. | Y | Protects known & future prairie dog areas from surface disturbance | None anticipated at this time |

| ROSWELL RMP DECISIONS IN THE SPECIAL STATUS SPECIES RMP AMENDMENT PLANNING AREA | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|--------------------------------------------|-------------------------------|
| PLANNING DECISION | IS DECISION RESPONSIVE TO CURRENT ISSUES? (Y/N) | REMARKS (RATIONALE) | OPTIONS FOR CHANGE |
| Mathers RNA (242 acres) closed to future oil & gas leasing, withdrawn from mineral entry, closed to solid mineral leasing, closed to disposal of mineral materials, major rights-of-way excluded, & closed to OHV use | Y | Protects the area from surface disturbance | None anticipated at this time |
| Mescalero Sands ACEC (7,931 acres) closed to future oil & gas leasing, withdrawn from mineral entry, closed to solid mineral leasing, closed to disposal of mineral materials, major rights-of-way excluded, & closed to OHV use | Y | Protects the area from surface disturbance | None anticipated at this time |
| Expanding the Mescalero Sands North Dune OHV Area from 562 acres to 1,546 acres | N | This decision will be reconsidered | No expansion of the OHV area |
| Mescalero Sands North Dune OHV area leased with NSO, closed to solid mineral leasing, closed to disposal of mineral materials, major rights-of-way to be avoided, & open to OHV use | Y | | None anticipated at this time |
| Core Prairie Chicken Habitat Area (249,400 acres) to be a major rights-of-way avoidance area | Y | Protects the area from surface disturbance | None anticipated at this time |
| OHV Designation in the RFO portion of the Planning Area, including the Core Prairie Chicken Habitat Area is limited to existing roads & trails | Y | Protects the area from surface disturbance | None anticipated at this time |
| Core Prairie Chicken Habitat Area - No drilling & 3-D geophysical exploration operations allowed between March 15 through June 15. Other activities that produce noise or involve human activity are allowed except between 3:00 a.m. and 9:00 a.m. The 3:00 a.m. to 9:00 a.m. restriction does not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during the period. | Y | Timing restriction during mating period | None anticipated at this time |

**ROSWELL RMP DECISIONS IN THE SPECIAL
STATUS SPECIES RMP AMENDMENT PLANNING AREA**

| PLANNING DECISION | IS DECISION RESPONSIVE TO CURRENT ISSUES? (Y/N) | REMARKS (RATIONALE) | OPTIONS FOR CHANGE |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|-------------------------------------------|
| Prairie Chicken - no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. | N | Protects known areas from surface disturbance but doesn't protect habitat for population expansion | Explore options for changing the decision |
| Prairie Chicken Noise Restriction - Exhaust noise from pump jack engines must be muffled & not to exceed 75 db measured at 30 feet from the source of the noise. Exceptions will be considered for areas of no or low prairie chicken booming activity, or unoccupied habitat, including leks. | Y | Noise restriction during mating period | None anticipated at this time |
| Sand Dune Lizard: No surface disturbance allowed in documented occupied habitat areas, or within up to 100 meters of suitable habitat associated with occupied habitat. Exceptions will be considered when an on-site evaluation of habitat extent, available species occurrence data, the proposed surface use, and proposed mitigations indicate the proposal will not adversely affect the local population. | Y | Protects occupied and adjacent suitable habitat from surface disturbance. expansion | None anticipated at this time |
| Prairie Dog Towns: No surface disturbance allowed on public lands within known prairie dog towns or towns identified in the future. Exceptions will be considered for maintaining existing structures or facilities. Prairie dog control will not be authorized except in emergency situations involving public health. | Y | Protects known prairie dog areas from surface disturbance | None anticipated at this time |
| A project area will not be chemically treated until the chemical treatment of an adjacent project area has been in place at least five years. | N | Does not allow for necessary changes and mitigation for resource impacts | Explore options for changing the decision |
| Treatments may be conducted to achieve DPC objectives in areas that are not considered suitable or occupied habitat for special status species. Suitable and occupied habitat will not be chemically treated unless the species is removed from State or Federal listing, or an alternative treatment method is developed that would not impair habitat. | N | Does not allow for necessary changes and mitigation for resource impacts | Explore options for changing the decision |

| CHANGES IN THE ROSWELL RMP MADE BY THE NEW MEXICO STANDARDS FOR PUBLIC LAND HEALTH AND GUIDELINES FOR LIVESTOCK GRAZING MANAGEMENT | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|-----------------------------------------------------------|-------------------------------|
| Livestock grazing management decisions made in the East Roswell Grazing EIS and the Roswell MFP/EIS will be used as the basis for continued livestock grazing. Changes in use allocations will continue to be made on the basis of monitoring data. | Y | Allows for changes in use allocations based on monitoring | None anticipated at this time |
| All allotments will be classified as suitable for year-long grazing unless resource conditions reflect a need to change seasons of use necessary to meet the Standards & Guidelines. | Y | Allows for changes in seasons of use based on monitoring | None anticipated at this time |
| The land will be revegetated to a level which is suitable to promote diversity and ground cover simultaneous with or upon abandonment of a site. | Y | Sets a level of reclamation | None anticipated at this time |

LANDS AND REALTY

Lands to be Disposed

Currently there is a land exchange being processed by the Carlsbad Field Office within the Planning Area that would dispose of 2,088 acres.

Rights-of-Way (ROWS) Corridors

ROW corridors located on land managed by the Carlsbad Field Office were designed based on future development patterns. Those patterns did not occur as predicted. The Interim Management Guidelines have defined Management Zones that conflict with the corridor locations. There is a need to review the location of the corridors and redefine or do away with them.

Avoidance/Exclusion Areas

The existing planning documents for the Carlsbad and Roswell Field Offices have differing definitions and applications for these terms. There is a need to address the definition and application/designation of right-of-way avoidance/exclusion areas so that consistency for the Planning Area is achieved.

The archeological Poco District is currently classified as a Cultural Resource Management Area. There is a need to also designate this area as a right-of-way avoidance area, as defined by the Carlsbad Field Office RMP.

Several dune complexes located on land managed by the Carlsbad Field Office need to be reviewed and possibly classified as right-of-way avoidance areas, as defined by the Carlsbad Field Office RMP. In particular, dune areas located within the Hackberry Lake OHV Area and dune complexes approximately 35 miles east of Carlsbad.

GEOLOGY AND MINERALS

Fluid Minerals

Possible Issues And Concerns

- Application of Instruction Memorandum No. NM-2004-060; Implementing Interim Management for Lesser Prairie Chicken and Sand Dune Lizard Habitat in Southeast New Mexico
- Implementation of Best Management Practices for resource development and site reclamation.

Conflicts To Be Resolved

- Effects of deferring oil and gas leasing on BLM-administered public.
- Effects of resource protection measures on oil and gas exploration and development.

Salable Minerals

Possible Issues And Concerns

- Application of Instruction Memorandum No. NM-2004-060; Implementing Interim Management for Lesser Prairie Chicken and Sand Dune Lizard Habitat in Southeast New Mexico

Conflicts To Be Resolved

There do not appear to be any conflicts with salable minerals in this area at this time.

Solid Leasables

Possible Issues and Concerns

Current management appears to be adequate.

Conflicts To Be Resolved

There do not appear to be any conflicts with solid leasable minerals in this area at this time.

Locatable Minerals

Possible Issues and Concerns

Current management appears too adequate.

Conflicts To Be Resolved

There do not appear to be any conflicts with locatable minerals in this area at this time.

ALTERNATIVE ENERGY

Within the Planning Area and on adjacent public land, BLM has opportunities to make decisions regarding the suitability of the area for solar and wind energy generating facilities. (The EIS can be viewed at www.windeis.anl.gov. See also Map 4-1, Wind Energy Potential.) The impacts of constructing and maintaining these potential generating facilities must be analyzed and weighed against other uses of public land as well as the impacts on local communities. Until the RMPA is completed, any proposed actions for alternative energy will be processed on a case-by-case basis.

SOILS

Conflicts to Be Resolved

The increased surface disturbance from increased development of oil and gas wells, roads, pipelines, and power lines in the Planning Area can result in increased degradation of surface water quality and groundwater quality from nonpoint source pollution, increased soil losses, and increased gully erosion.

The increased surface disturbance from the increased development of oil and gas wells, roads, pipelines, and power lines in the Planning Area can result in increased degradation of surface water quality and groundwater quality from nonpoint source pollution, increased soil losses, and increased gully erosion.

Reducing soil and surface disturbance, both short-term and long-term, caused by the development of oil and gas leases is one of the keys to protecting and maintaining habitat. The implementation of best management practices and the refinement of these BMPs through experience should resolve some of the conflicts.

WATER RESOURCES

Possible Issues and Concerns

The mud pits used for oil and gas drilling contain high concentrations of salts. When these areas are reclaimed, the salts can prevent any significant amount of plant growth.

Conflicts to be Resolved

The increased surface disturbance from the increased development of oil and gas wells, roads, pipelines, and power lines in the Planning Area can result in increased degradation of surface water quality and groundwater quality from nonpoint source pollution, increased soil losses, and increased gully erosion.

AIR QUALITY

Possible Issues or Concerns

Use Best Management Practices to maintain Class II air quality in the Planning Area.

Conflicts to be Resolved

Impacts and effects of BLM-approved surface disturbing activities on air quality.

VEGETATION

Possible Issues and Concerns

The resource concerns identified for vegetation include reaching or maintaining DPC, meeting the Standards for Rangeland Health, providing a sustainable forage supply for livestock and wildlife, and providing suitable habitat for special status species. General management guidance for these concerns can be found in Chapter 3, under the Vegetation, Livestock Grazing, and Wildlife sections. One conflict with the Roswell RMP (1997) is the stipulation that no project area would be chemically treated until 5 years after an adjoining project area has been treated.

Conflicts To Be Resolved

To resolve the conflict dealing with treatments in adjoining projects, chemical treatments that have been deemed necessary to attain habitat objectives, and are next to existing ones, would be allowed prior to the stipulated 5 years. Management opportunities include vegetative treatments to move the plant composition towards or to DPC and monitoring studies to determine impacts of actions taken in the Planning Area. Vegetative treatments to reduce shrubs and increase grass could include brush control via chemical, mechanical, or prescribed fire techniques. Monitoring processes could include photo points, qualitative data collection, quantitative data collection or a combination of these techniques. The treatments and monitoring could be funded by private, State, or Federal sources or combinations of these three sources.

NON-NATIVE AND INVASIVE SPECIES

Possible Issues and Concerns

The resource concerns identified for noxious weeds are to prevent the spread of these species and to reduce or eliminate known populations. One conflict with the Roswell RMP (1997) is the stipulation that no suitable or occupied habitat for special status species would be chemically treated unless that species is removed from State or Federal listing or an alternative treatment method is developed that will not impair habitat. This could limit the ability to treat an invasive population of weeds. There may also be some competition for limited weed control dollars, if the Planning Area becomes first priority for these dollars.

Conflicts To Be Resolved

To resolve the conflict dealing with chemical treatments within special status species habitat, those chemical treatments targeting non-native or invasive weeds would be allowed. The treatment area would be limited to only those plants making up the invading population. Management opportunities include control treatments to eliminate known populations and monitoring studies to determine impacts of actions taken in the Planning Area. Treatments could be chemical, mechanical, or biological. Monitoring processes could include photo points, qualitative data collection, quantitative data collection or a combination of these techniques. The treatments and monitoring could be funded by private, State, or Federal sources or combinations of these three sources.

WILDLIFE

Wildlife Habitat

Resource concerns identified for wildlife habitat include: (1) the continuance of integrating wildlife habitat needs in the development of range improvements and vegetation manipulation projects, (2) continuing the implementation of surface use and occupancy restrictions for playas, prairie dog towns and raptors, (3) The increasing amount of OHV use that occurs within the shinnery oak dune plant community resulting in detrimental impacts on wildlife habitat conditions and especially mule deer populations during hunting seasons, (4) habitat fragmentation to most wildlife species as a result of increased road densities and other infrastructure related to oil and gas development, and (5) Establishment of population and sex ratios mule deer within the Planning Area boundary in coordination with the NMGDF.

SPECIAL STATUS SPECIES

Resource concerns identified for special status species are: (1) the continuing loss and or degradation of habitat for two candidate species that are warranted for listing, (2) Fragmentation of habitat as a result of leasing and mineral development (pads, roads, pipelines, and power lines) is a major concern, (3) Establishment of habitat corridors for genetic connectivity is needed, along with seasonal restrictions (timing) to allow species to move and repopulate, (4) Best management practices (BMPs) adopted to minimize surface disturbance is of critical importance, (5) Once abandoned, ROWs and pads need to be properly reclaimed as soon as possible to restore habitat requirements for these species, and (6) Implementation of the Robel (VOR) monitoring to ensure nesting habitat is available for lesser prairie chick and fluctuating livestock use/numbers in accordance to the Terms and Conditions mentioned in Table 3-4.

LIVESTOCK GRAZING

Possible Issues And Concerns

The resource conflicts identified for livestock grazing include potential reductions in authorized number of animals (fewer AUMs), reduction in authorized season of use (timing restrictions), and changes in authorized range improvement projects (fewer fences/waters; different types of fences/waters). General management guidance for these concerns can be found in Chapter 3, under the Vegetation, Livestock Grazing, and Wildlife sections.

Conflicts To Be Resolved

Management opportunities include vegetative treatments, range improvement projects, the development of grazing systems to improve habitat for lesser prairie chicken, and monitoring studies to determine impacts of actions taken in the Planning Area. An example of brush treatment could be treating a hard land pasture to reduce mesquite and increase grass. By increasing available forage on the hard land site, the pasture could hold livestock for a longer period of time. This would allow a sand pasture to receive less livestock use and leave more standing cover for lesser prairie chicken habitat. An example of a range improvement project would be a cross fence to divide one large pasture into two smaller ones. This would allow for more rotation, again taking some pressure off a sand pasture and allowing more standing cover for lesser prairie chicken habitat. An example of a grazing system to improve lesser prairie chicken habitat would be switching from yearlong use in a pasture with leks to grazing only in the dormant season. An example of monitoring processes could include photo points, qualitative data collection, quantitative data collection or a combination of these techniques. The treatments, projects, grazing system development, and monitoring could be funded by private, state, or Federal sources or combinations of these three sources.

FIRE MANAGEMENT

The opportunities to maintain Fire Regime Condition Class 1 and improve the conditions in Condition Classes 2 or 3 already exist. The impacts have been analyzed in the RMPA for Fire and Fuels Management (BLM 2004). Site-specific impact analysis will be conducted prior to the implementation of individual projects.

Consideration will be given to developing a common fire management category within the Planning Area. The determination of a fire management category is not subject to impact analysis; however, any change would be listed in this subsequent RMP Amendment.

HAZARDOUS MATERIALS

Possible Issues And Concerns

Current management appears to be adequate.

Conflicts To Be Resolved

There do not appear to be any conflicts with hazardous materials management in the Planning Area at this time.

CULTURAL RESOURCES

Possible Issues And Concerns

In areas where there is high archeological site density, block area survey may be a benefit in determining where development can occur without having archeology in the way. Of course, data recovery prior to surface disturbance is an option, but usually expensive and time delaying.

Further archeological investigation of the Poco site has revealed that the site is larger than previously thought. The opportunity arises to expand the area of protection by excluding surface disturbing activities within the new site boundaries.

Conflicts To Be Resolved

With increased road construction as a result of development comes increased access to archeological resources. The risk increases for illegal artifact collecting.

PALEONTOLOGICAL RESOURCES

Possible Issues And Concerns

In areas where there is known high paleontological site density, block area survey may be a benefit in determining where development can occur without having paleontological resources in the way. Of course, data recovery prior to surface disturbance is an option, but usually expensive and time delaying. Continue the practice of surveying for paleontological resources during cultural survey inventories.

Conflicts to be Resolved

With increased road construction as a result of development comes increased access to paleontological resources. The risk increases for illegal fossil collecting.

RECREATION

Possible Issues And Concerns

The acreage contained in the Hackberry Intensive ORV Use Area is within the Right-of-Way (ROW) Avoidance Area as defined by BLM Manual 1623.51 which states:

“....areas where future rights-of-way maybe granted only when no feasible alternative route or designated right-of-way corridor is available.”

In November 2000, BLM updated BLM Manual 1601, Land Use Planning, and deleted BLM Manual 1623.

Conflicts to be Resolved

- OHV designations in the Roswell Field Office, with small exceptions, are limited to existing roads and trails. By contrast, OHV designations within the Carlsbad Field Office are open. The opportunity is to standardize OHV designation across Field Office boundaries.
- The current open designation within the Carlsbad Field Office does not lend itself to protection, maintenance or enhancement of habitat used by special status species.
- Expanding the Mescalero Sands North Dune OHV Area may not be in the best interest of protecting, maintaining or enhancing habitat used by special status species.

- The Roswell Field Office has yet to complete its route designation planning for the limited OHV designation within the Planning Area.
- There is an opportunity to update and upgrade OHV designations within the Carlsbad portion of the Planning Area to conform to current OHV guidance.

VISUAL RESOURCES

Roswell Field Office

Under current management the following VRM Classes are listed for the Roswell Field Office within the Planning Area:

- Class I – Mathers Instant Study Area (ISA)
- Class II – Mescalero Sands ACEC
- Class III – Highway 380 corridor which includes Mescalero Sands North Dune OHV Area
- Class IV – Remaining acreages of the Planning Area

The following is an RNA Class I area:

Mathers Instant Study Area (ISA) NM-ISA-003 is automatically a Class I area due to its wilderness status in the BLM wilderness inventory. The ISA was reviewed under Section 603 of the FLPMA. The Mathers Wilderness Suitability Report was completed in September 1979. The actual ISA is 242 acres.

The Class I objective is to preserve the existing character of the landscape. Only Congressionally authorized areas or areas approved through the RMP process where the goal is to provide a landscape setting that appears unaltered by man, should be placed in this class. The level of change to the characteristic landscape should be extremely low because only very limited development such as hiking trails should occur in these areas.

The Class II objective (Mescalero Sands ACEC) is as follows:

The objective of this class is to retain the existing character of the landscape. The level of change should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

The Class III objective (Highway 380 corridor including the Mescalero Sands North Dune OHV Area) is as follows:

The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

The Class IV objective (remaining acreage of the Planning Area) is defined as follows:

The objective of this class is to provide for management activities that require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements (form, line, color, and texture).

Carlsbad Resource Area

Presently under current management, the following VRM Classes are listed for the Carlsbad Field Office:

The Planning Area within the Carlsbad Field Office is predominantly designated Class IV VRM Class. The only exception is the 3,360-acre Laguna Plata SMA which is designated VRM Class III.

Class III VRM Objective (3,360 acre Laguna Plata SMA): The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

Class IV VRM Objective (Remaining acreages of the Planning Area): Change is dominant, but mitigated. The objective of this class is to provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.

Conflicts To Be Resolved

At this point in the process, the current product maps represent the visual inventory classes. Conversion of these classes to final VRM classes involves assessment by the public, the planning team, and management as a part of the alternative and impact assessment in the RMPA/EIS process. Changes may be made to the class or the class boundaries to conform to the management objectives defined in the RMPA/EIS. The final product of this effort will become the VRM Class excluding however, the Mathers Instant Study Area (ISA). This area can not be changed by the RMPA/EIS process and can only be accomplished through Congressional action.

SPECIAL MANAGEMENT AREAS

While approximately 562 acres of the Mescalero Sands North Dune OHV Area are actively managed and used, consideration would be given to the designation as open to OHV use on the remaining acreage. Additionally, the application of noise and timing restrictions to OHV use of the area will be considered during the development of alternatives.

A route designation plan for the Mescalero Sands ACEC has yet to be completed. Currently, OHV use in the ACEC is limited to existing roads and trails.

BLM has received a nomination for a lesser prairie chicken ACEC. This nominated ACEC consists of three blocks of land; two in the Roswell Field Office and the third in the Carlsbad Field Office. This ACEC nomination is entirely within the boundaries of the Planning Area. Since the nomination meets the relevance and importance criteria listed in BLM Manual 1613, Areas of Critical Environmental Concern, the nomination becomes a proposed ACEC and must be considered in at least one of the alternatives in the Draft RMP/EIS.

SOCIAL AND ECONOMIC VALUES

While BLM policies and programs on public land have some influence on portions of the economy of southeast New Mexico, that influence is diluted in the entire economy in southeast New Mexico. BLM recognizes that changes in management direction directly affects some individuals and companies, and, therefore, will be of utmost importance to those same people.

Chapter 5

CHAPTER 5

CONSISTENCY/COORDINATION WITH OTHER PLANS

Coordination with other agencies and consistency with other plans will be accomplished through frequent communications and cooperative efforts between the BLM and involved Federal, state, and local agencies, organizations and individuals.

State, county and local governments and agencies have been formally notified of the intent to begin planning and of the scheduled public scoping meetings. BLM intends to involve these organizations prior to starting development of the RMPA and during the development of alternatives.

Each land management agency, county government and tribal government were asked to share copies of their approved land use plans so that BLM could fulfill the requirements of the Federal Land Policy and Management Act (FLPMA). These plans will be reviewed during the planning process.

Chapter 6

CHAPTER 6

SPECIFIC MANDATES AND AUTHORITY

NATIONAL ENVIRONMENTAL POLICY ACT OF 1969

The National Environmental Policy Act (NEPA) of 1969 (40 USC 4331 et seq.) and its implementing regulations (40 Code of Federal Regulations [CFR] Part 1500) apply to Federal actions including those relating to resource management. This statute requires the Federal Authorized Officers in Federal agencies to perform an environmental analysis and disclose effects of their decisions on the quality of the human environment. The law further requires the Federal Authorized Officers to identify and describe the significant environmental issues associated with their decisions and to develop alternatives to a proposed action (including the alternative of no action). Federal Authorized Officers must disclose the direct, indirect, and cumulative effects of the decisions; adverse environmental effects that cannot be avoided; the relationship between short-term uses of the human environment and the maintenance of long-term productivity; and any irreversible or irretrievable commitments of resources made by the decision.

FEDERAL LAND POLICY AND MANAGEMENT ACT OF 1976

This statute (43 USC 1700, et seq.) and its implementing regulations (43 CFR Part 1600) define principles for the management of public land and its resources. This act directs the Secretary of Interior to develop, maintain, and, when appropriate, revise land use plans that provide for the use of public land managed on the basis of multiple use and sustained yield unless otherwise specified by law.

BLM MANUAL 1601 – LAND USE PLANNING AND BLM HANDBOOK H-1601-1 LAND USE PLANNING HANDBOOK

Both documents provide supplemental guidance for implementing the BLM land use planning requirements established by Sections 201 and 202 of FLPMA and the regulations in 43 CFR 1600. The handbook provides guidance for preparing and amending land use plan decisions through the planning process, and for maintaining resource management plans (RMPs). The handbook also provides guidance for developing implementation plans and program-specific and resource-specific decisions.

CLEAN AIR ACT OF 1970

The Clean Air Act (91 Stat. 685; 42 USC 7401 et seq.), as amended provides that each State is responsible for ensuring achievement and maintenance of air quality standards within its borders so long as such standards are at least as stringent as Federal standards established by the U.S. Environmental Protection Agency (EPA).

CLEAN WATER ACT OF 1970

Clean Water Amendments Act ("Federal Water Pollution Control Act Amendments of 1972") of October 18, 1972 (PL 92-500, 86 Stat. 816, as amended; 33 USC 1251, et seq.) establishes Federal standards to restore and maintain chemical, physical, and biological integrity of the Nation's waters.

EO 12898, FEDERAL ACTIONS TO ADDRESS ENVIRONMENTAL JUSTICE IN MINORITY POPULATIONS AND LOW-INCOME POPULATIONS

This EO requires that Federal agencies make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.

WILDLIFE

Legislation including FLPMA, the Endangered Species Act, the Public Rangelands Improvement Act, and Sikes Act has directed BLM to manage habitat to meet wildlife needs in the face of increasing demands for basic energy supplies, ranching, building materials, food products, and recreational opportunities. BLM's responsibility is to recognize opportunities to maintain, improve, and expand wildlife habitat for both consumptive and non-consumptive use and identify critical wildlife resources deserving special attention. BLM is also directed to assist State agencies in completing fish and wildlife conservation resource plans.

The Migratory Bird Treaty Act of 1929, as amended, established Federal responsibility to protect international migratory birds and authorizes the Secretary of the Interior, through the USFWS, to regulate hunting of migratory birds. The North American Waterfowl Management Plan signed in 1986 between Canada and USA further sets population goals and how to achieve them.

The Taylor Grazing Act of 1934, as amended, requires cooperation with states and other groups interested in conservation and propagation of wildlife within established grazing districts and provides for fishing and hunting within those districts in accordance with applicable laws.

The Endangered Species Act of 1973, as amended, requires BLM to ensure that proposed actions do not jeopardize the continued existence of a threatened or endangered species nor cause its critical habitat to be modified or destroyed.

The Sikes Act of 1974, as amended, requires rehabilitation programs for fish and wildlife, including development of cooperative agreements with state fish and game agencies to carry out such plans. The act also provides for the protection of species listed by the state as threatened or endangered.

Federal Land Policy and Management Act of 1976 recognizes wildlife as a principal land use, requires consideration of wildlife objectives in commodity-oriented programs, and authorizes use of range betterment funds for enhancement of habitat for fish and wildlife.

The Public Rangelands Improvement Act of 1978 directs that the condition of the public rangelands be improved so that they become as productive as feasible for wildlife habitat and other rangeland values. The act provides for on-the-ground funding of wildlife habitat protection, improvements, and maintenance projects

Other Federal laws that may occasionally affect wildlife habitat management actions in the Planning Area are the Mineral Leasing Act, the Water Resources Planning Act, the Water Pollution Act, the Water Resources Development Act, the Federal Grants and Cooperative Agreements Act, the Safe Drinking Water Act, the Fish and Wildlife Act, and the Soils and Water Resources Conservation Act.

MINERAL AND ENERGY RESOURCES

- Mining Law of 1872
- Mineral Lands Leasing Act of 1920 (as amended)
- Mineral Leasing Act for Acquired Lands of 1947
- Mining and Minerals Policy Act of 1970
- Geothermal Steam Act of 1970
- Federal Coal Leasing Amendments Act of 1976
- Surface Mining Control and Reclamation Act of 1977
- Research and Development Act of 1980
- Federal Oil and Gas Royalty Management Act of 1982
- Federal Onshore Oil and Gas Leasing Reform Act of 1987

SOILS AND PRIME FARMLAND:

- Farmland Protection Policy act of 1984
- Bankhead Jones Farm Tenant Act of 1937
- Soil and Water Conservation Act of 1977

VEGETATION RESOURCES MUST CONSIDER THE:

- Carlson-Foley Act of 1968
- Federal Noxious Weed Act of 1974
- EO 13112 "Invasive Species"

HAZARDOUS MATERIALS

- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980
- Superfund Amendments and Reauthorization Act (SARA) of 1986
- Emergency Planning and Community Right to Know Act (EPCRA) of 1986
- EO 12856, Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements (1992)
- Resource Conservation and Recovery Act (RCRA) of 1976
- Hazardous and Solid Waste Amendments of 1984
- Federal Facility Compliance Act (FFCA) of 1992

CULTURAL RESOURCES

- Antiquities Act of 1906
- Historic Sites Act of 1935
- Reservoir Salvage Act of 1960
- National Historic Preservation Act of 1966
- Archaeological and Historic Preservation Act of 1974
- American Indian Religious Freedom Act of 1978
- Archaeological Resources Protection Act of 1979
- Native American Grave Protection and Repatriation Act of 1990
- Executive Order 13007 of 1996, Sacred Sites
- Executive Order 13175

RECREATION RESOURCES

- EO 11644, Use of Off-Road Vehicles on the Public Lands (as amended by EO 11989)

LIVESTOCK GRAZING

- Taylor Grazing Act of 1934, as amended
- Public Rangelands Improvement Act of 1978

Chapter 7

CHAPTER 7

SCOPING REPORT

Four formal scoping meetings were held. Attendees were affiliated with either the livestock industry or the petroleum industry. Five information stations (Livestock Grazing, Oil & Gas Development, OHV Use, Planning Process, and Wildlife & Special Status Species) were set up at every meeting and comments captured by BLM staff on flip charts. A total of 37 individuals attended the four meetings.

The formal scoping meetings produced no surprises. There was concern expressed about the affects of the RMPA on ranch operations (utilization levels, seasonal grazing for either entire ranches or individual pastures). Questions about brush control were voiced at every meeting.

General concerns about the adequacy of any BLM analysis of economic impacts were expressed. At this time there is no certainty about the source of these concerns or the object of these concerns.

Several speakers mentioned the maximization of resource production, however, it was unclear if the speakers were talking about maximum production of one resource or a balance between resources for maximum production. There also seemed to be a general sentiment to continue existing management in the CFO portion of the Planning Area since “there are no birds there.”

Summary of Written Scoping Comments

BLM received a total of 10 letters, comment forms and e-mail during the scoping period, five of which were concerned with off-highway vehicle (OHV) use. A few comments captured at the public meetings were repeated in the written comments.

The comments regarding OHV use were from those people who were concerned with the elimination of the Mescalero Sands North Dune OHV Area and advocated the proposed 900-acre expansion of the area as proposed in the 1997 Roswell Resource Management Plan. Comments urged BLM to inventory for lesser prairie chickens and sand dune lizards as well as conducting an inventory for possible additional OHV areas within the Planning Area.

Two comments dealt with BLM's relationship with the US Fish and Wildlife Service. One comment expressed concern the Service is unaware or uneducated about current projects and management practices in southeast New Mexico. The second comment advocated formal agreements between BLM and USFWS as a measure to reduce the risk to users of public lands and resources.

In general, the comments touched upon subjects that BLM must or should consider during the development of alternatives and the Draft RMP Amendment. They serve as good reminders of issues and concerns that need to be resolved.

Summary of the Comments from the Economic Profile System Workshops

The Economic Profile System (EPS), developed by the Sonoran Institute for BLM, serves as the baseline of the social and economic condition of the Planning Area. BLM hosted two workshops as part of the scoping process to learn how EPS works and to gather input from the public. A

total of 42 people (BLM staff and members of the public) attended the workshops. At the end of the workshops, three questions were asked. What are the area's most significant economic assets? What is your vision of economic success for the area? How can public lands assist with this vision of success?

Responses to these questions, particularly the last, echoed many of the comments previously received. Livestock grazing and petroleum development on public land are important to the economy of southeast New Mexico yet the share of total employment and personal income generated by these industries has declined over the past 30 years. Services of all types have generated the most new jobs in the area during the same time period. Surprisingly, sources of non-labor income are the largest category (37 percent) for personal income.

Economic profiles for Roosevelt, Chaves, Eddy and Lea Counties can be downloaded from the Sonoran Institute at sonoran.org or from BLM's Roswell Field Office

Issues and concerns from scoping revolve around these topics:

The activities that generate revenues from public land need to continue.

Livestock grazing and petroleum development should continue to be part of the local and regional economy.

OHV use areas should be expanded and an inventory for areas suitable for OHV use conducted in the Planning Area.

The Public Record

Comments, oral or written, received by BLM become part of the public record for the Special Status Species Resource Management Plan Amendment. As such, these comments are available for public review at the Roswell Field Office.

Chapter 8

CHAPTER 8

GLOSSARY

ACQUIRED LANDS. Lands in Federal ownership which were obtained by the government through purchase, condemnation, gift, or exchange.

ACRE-FOOT (AC-FT). Volume of water that will cover one acre of land to a depth of one foot; equals 43,560 cubic feet or 325,851 gallons.

ADJUDICATION. A formal court proceeding which results in the determination of the validity and extent of a water right.

AERIAL PHOTOGRAPHY. Photographs taken of the earth's surface from an aircraft. Both color and infra-red aerial photos can be produced which show surface features. Photographs can indicate vegetation changes and water content associated with fractures where caves may be located.

AGGREGATE. Any of several hard, inert materials, such as sand, gravel, slag, or crushed stone, used for mixing with a cementing or bituminous material to form concrete, mortar, or plaster, or used alone, as in railroad ballast or graded fill.

AIR POLLUTION. The general term alluding to the undesirable addition of substances (gases, liquids, or solid particles) to the atmosphere that are foreign to the natural atmosphere or are present in quantities exceeding natural concentrations.

ALKALI LAKES. Shallow plate-like depressions in central portions of basins that drain internally, collect runoff and evaporate rapidly; salt playas.

ALLOTMENT. An area of land designated and managed for grazing of livestock.

ALLOTMENT MANAGEMENT PLAN (AMP). A livestock grazing activity plan for a specific allotment based on multiple-use resource management objectives. The AMP considers livestock grazing in relation to other uses of the rangelands and in relation to renewable resources (i.e., watershed, vegetation and wildlife). An AMP includes the seasons of use, number of livestock permitted on the allotment, grazing system, and the rangeland developments needed. AMPs are prepared in consultation, cooperation and coordination with the permittee(s), lessee(s) or other involved affected parties.

ANIMAL UNIT MONTH (AUM). The amount of forage necessary for the sustenance of one cow with a nursing calf or its equivalent for a period of one month.

ANNUAL WATER YIELD. The total stream flow volume that passes a specified point in a watershed during a year. It generally equals total precipitation and irrigation, less evapotranspiration losses and deep seepage losses.

AREAS OF CRITICAL ENVIRONMENTAL CONCERN (ACEC). Areas within the public land where special management attention is needed to protect and prevent irreparable damage to important historical, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and provide safety from natural hazards.

AUTHORIZED OFFICER. Any person authorized by the Secretary of the Interior to administer regulations.

AVOIDANCE AREA. An environmentally sensitive area where rights-of-way would be granted only in cases where there is a prevailing need and no practical alternative location exists, and then only with appropriate provisions to protect the sensitive environmental components.

BENEFICIAL USE. The basis, the measure, and the limit of a water right. Agricultural, commercial, industrial, and recreational uses are all considered to be beneficial.

BERM. An embankment or mound of earth or other material. Examples of the use of a berm include use around a tank battery in an oil field to contain spilled fluids or as a barrier across a road or trail to prohibit travel by motor vehicles.

BEST MANAGEMENT PRACTICE (BMP). Methods, measures, or practices selected on the basis of site-specific conditions to ensure that water quality will be maintained to its highest practicable level. BMPs include, but are not limited to structural and nonstructural controls, operations, and maintenance procedures. BMPs can be applied before, during, or after pollution producing activities to reduce or eliminate the introduction of pollutants into receiving waters (40 CFR 130.2, EPA Water Quality Standards Regulation). Each BMP should identify: (1) specific management objectives, (2) a thorough description of the practice(s) to be used, and (3) a plan for monitoring the effectiveness of the practice(s) toward meeting the stated objectives, so they can be refined overtime. Examples of specific BMPs for New Mexico rangelands are given by New Mexico State University (1983).

BIODIVERSITY. Refers to the variety of life and its processes and includes the variety of living organisms, the genetic differences among them, and the communities and ecosystems in which they occur.

CALICHE. A brown or white material commonly found as a subsoil deposit in and or semi-arid climates which is composed largely of calcium carbonate.

CAVE. Any naturally occurring void, cavity, recess, or system of interconnected passages which occurs beneath the surface of the earth or within a cliff or ledge (including any cave resource therein, but not including any vug, mine, tunnel, aqueduct, or other manmade excavation) and which is large enough to permit an individual to enter, whether or not the entrance is naturally formed or manmade. The term "cave" includes any natural pit, sinkhole, or other feature which is an extension of the entrance. Refer also to "Significant Cave."

CAVE EXPLORATION. The act of entering a naturally occurring void, cavity, recess or system of interconnected passages which occurs beneath the surface of the earth, ledge, or cliff to investigate, study or analyze contents, hazards and extent; to travel into new territories for adventure or discovery.

CLASSIFICATION OF LANDS. The process of determining whether the lands are more valuable or suitable for transfer or use under particular or various public land laws than for retention in federal ownership for management purposes.

COMMUNITY. A group of plants and animals living together in a common area having close interactions.

COMMUNITY PIT. A site from which nonexclusive disposals of mineral materials can be made.

CONDITION, FUNCTIONAL-AT RISK (Riparian, Wetland). Riparian-wetland areas that are in functional condition but an existing soil, water, or vegetation attribute makes them susceptible to degradation.

CONDITION, NON-FUNCTIONAL (Riparian, Wetland). Riparian-wetland areas that clearly are not providing adequate vegetation, landform, or large woody debris to support proper functioning condition. The absence of certain physical attributes, such as a floodplain where one should be, are indicators of non-functioning conditions.

CONDITION, PROPER FUNCTIONING (Riparian, Wetland). Riparian-wetland areas are functioning properly when adequate vegetation, landform, or large woody debris is present to: (a) dissipate stream energy associated with high water flow, thereby reducing erosion and improving water quality; (b) filter sediment, capture bed load, and aid floodplain development; (c) improve floodwater retention and groundwater recharge; (d) develop root masses that stabilize stream banks against cutting action; (e) develop diverse ponding and channel characteristics to provide the habitat and the water depth, duration, and temperature necessary for fish production, waterfowl breeding, and other uses; and, (f) support greater biodiversity. The functioning condition of riparian/wetland areas is a result of interaction among geology, soil, water, and vegetation.

CONDITION, UNKNOWN (Riparian, Wetland). Riparian-wetland areas for which sufficient information is lacking to make any form of determination about functional condition.

CONDITION OF APPROVAL (COA). A requirement appended to a use authorization that must be met in order to be in conformance with the authorization. Conditions of approval may be standard practices that are routinely applied or may be special requirements developed through the NEPA process. Conditions of approval usually are applied to mitigate the impacts of an action. Conditions of approval do not modify any rights granted by a lease (e.g., an oil and gas lease). Also, refer to LEASE, PERMIT, and STIPULATION in the Glossary.

CONDITIONAL WILDFIRE SUPPRESSION. The point in time that the fire exceeds the definable boundaries of the prescribed natural fire parameters, conditional suppression will become full suppression. (Total acres will not be a concern but exceeding the defined boundaries will indicate an escaped fire analysis.)

CONSERVATION (ARCHAEOLOGY). A level of management applied to cultural resources exhibiting uniqueness or relative scarcity of similar cultural properties; research potential that surpasses current state of the art; or singular historic importance or architectural interest.

COORDINATED RESOURCE MANAGEMENT PLAN (CRMPA). A plan for management of one or more grazing allotments that involve all the affected resources, e.g., range, wildlife, watershed, minerals, and recreation.

CORRIDOR. A linear strip of land forming a passageway between two points in which transportation and/or utility systems exist or may be located. A designated corridor is the preferred location for existing and future rights-of-way grants that have been identified by law, by secretarial order, through land use planning, or by other management decision.

CRUCIAL HABITAT. Portions of the habitat of a wildlife population that, if destroyed or adversely modified, would result in a reduction of the population to a greater extent than destruction of other portions of the habitat.

CRITICAL HABITAT. Any air, land, or water area, including elements thereof, which have been determined (and published in the Federal Register) to be essential to the survival of wild populations of an endangered or threatened species or to be necessary for their recovery to a point at which the measures provided pursuant to the ESA are no longer necessary.

CULTURAL RESOURCE. The fragile and nonrenewable remains of human activity, occupation, or endeavor reflected in districts, sites, structures, buildings, objects, artifacts, ruins, works of art, architecture, and natural features that were of importance in human events. These resources consist of physical remains, areas where significant human events occurred even though evidence of the event no longer remains, and the environment immediately surrounding the actual resource and oral history or ethnographic accounts of life ways and customs.

DESIGNATION. The official identification and naming of a general area or site on public land. Lands may be designated when they are either (1) withdrawn, (2) given special status by act of Congress, or (3) established by an approved land use plan.

DESIGNATED USES. Surface water uses specified by the Water Quality Control Commission for which water quality standards have been established. Designated uses apply whether or not they are being attained.

DESIRED PLANT COMMUNITY (DPC). The plant community which provides the vegetation attributes required for meeting or exceeding RMP vegetation objectives. The DPC must be within an ecological site's capability to produce these attributes through natural succession, management action, or both. A specific description of the vegetation needed to meet the vegetation objectives of a detailed activity plan or implementing action can be described as a desired plant community. Seeding mixtures under DPC would emphasize the use of native species and avoid noxious weeds and exotic species.

DISTRICT. The specific area of public lands administered by a district manager.

DIVERSION. A man-made construction that diverts water from its natural source to be put to beneficial use.

DIVERSITY. The relative degree of abundance of wildlife species, plant species, communities, habitats, or habitat features per unit area.

DRASTIC. A method developed by the U.S. Environmental Protection Agency for evaluating the potential for groundwater pollution. The name "DRASTIC" is an acronym for the seven hydro geologic factors that the method uses to produce the Drastic Index. The Index is a numerical value which helps prioritize areas with respect to groundwater contamination vulnerability. The factors are: Depth to water; Recharge; Aquifer media; Soil media; Topography (i.e., slope); Impact of the vadose zone; and, Conductivity (hydraulic) of the aquifer.

ECOLOGICAL SITE INVENTORY (ESI). The effort and documentation needed to establish realistic, achievable, and measurable vegetation management objectives.

ECOSYSTEM. A complex self-sustaining natural system which includes living and nonliving components of the environment and the circulation of matter and energy between organisms and their environment.

ENDANGERED SPECIES (FEDERAL). An animal or plant species whose prospects of survival and reproduction are in immediate jeopardy and in danger of extinction throughout all or a significant portion of its range, as defined by the USFWS under the authority of the Endangered Species Act of 1973, as amended. Whether a species is threatened or endangered is determined by the following factors: (1) present or threatened destruction, modification, or curtailment of its habitat or range; (2) over utilization for commercial, sporting, scientific, or educational purposes; (3) disease or predation; (4) inadequacy of existing regulatory mechanisms; or (5) other natural or human-made factors. Also, see "Threatened Species (Federal)" in the Glossary.

ENDANGERED SPECIES (STATE). Any species or subspecies whose prospects of survival or recruitment in New Mexico are in jeopardy. Also, see "Threatened Species (State)" in the Glossary.

ENVIRONMENTAL ASSESSMENT (EA). The procedure for analyzing the impacts of some proposed action on a given environment and the documentation of that analysis. An EA is similar to an environmental impact statement (EIS) but is generally smaller in scope. An EA may be preliminary to an EIS.

ENVIRONMENTAL IMPACT STATEMENT (EIS). The procedure for analyzing the impacts (both beneficial and adverse) of a proposed action on a given environment, and the documentation of that analysis.

EPHEMERAL STREAM. A stream that flows in direct response to surface runoff.

EPHEMERAL. A stream or portion of a stream that flows in direct response to precipitation lasts for a short period of time and is not influenced by ground water sources. Also pertains to playa lakes which can be intermittently wet.

EXCHANGE. A trading of public lands (surface or subsurface estates) that usually do not have high public value, for lands in other ownerships which do have value for public use, management and enjoyment. The exchange may be for the benefit of other Federal agencies as well as BLM.

EXCLUSION AREAS. Areas where future rights-of-way may be granted only when mandated by law.

EXTENSIVE RECREATION MANAGEMENT AREAS (ERMA). Areas where recreation is unstructured and dispersed and where minimal recreation-related investments are required. ERMA's provide recreation visitors the freedom of choice with minimal regulatory constraint. These areas consist of the remainder of land areas not included in Special Recreation Management Areas within a resource area.

FEDERAL CAVE RESOURCES PROTECTION ACT (FCRPA) OF 1988. The purposes of this act are (1) to secure, protect, and preserve significant caves on Federal lands for the perpetual use, enjoyment, and benefit of all people; and (2) to foster increased cooperation and exchange of information between governmental authorities and those who utilize caves located on federal lands for scientific, education, or recreational purposes.

FEDERAL LAND. Land owned by the United States and administered by the Federal government. Federal land includes public land (see Public Land in the Glossary).

FEDERAL LAND POLICY AND MANAGEMENT ACT (FLPMA) OF 1976. Public Law 94-579, gives the BLM legal authority to establish public land policy; to establish guidelines for administering such policy; and to provide for the management, protection, development, and enhancement of the public land. Often referred to and pronounced "flipma."

FEDERAL RESERVED WATER RIGHT. A water right which is reserved by the federal government when land is withdrawn from the public domain for a particular purpose, such as national parks, forests, and monuments. The amount of water reserved is only that necessary to fulfill the intended purpose.

FLOODPLAIN. See "One Hundred-Year Floodplain" in the Glossary.

FLOWLINE. The surface pipe through which oil, water, or gas travels from a well to processing equipment or to storage.

FRAGILE SOIL. A soil that is easily damaged by use or disturbance. Examples include soils that are susceptible to compaction or other mechanic damage to their structure, or soils that are highly erodible when disturbed.

FULL WILDFIRE SUPPRESSION. All necessary resources and tactics are utilized to halt fire spread at a minimum acreage with the most cost effect suppression tactics.

GEOGRAPHIC INFORMATION SYSTEM (GIS). Through the use of computer technology, GIS allows the input, storage, analysis, and display of a great volume and variety of physically locatable data (i.e., data which is known to exist at some specific place or area on the ground).

GRANT. A gift of public lands either in quantity or in place. Also, the document or the action which conveys land or an interest in land.

GRAZING CAPACITY. The maximum livestock stocking rate possible without inducing damage to vegetation or related resources such as watershed. This incorporates factors such as suitability of the rangeland for grazing as well as the proper use which can be made on all of the plants within the area. Normally expressed in terms of acres per animal unit month (AC/AUM) or sometimes referred to as the total AU Ms that are available in any given area, such as an allotment. Areas that are unsuitable for livestock use are not computed in the grazing capacity. Grazing capacity may or may not be the same as the stocking rate.

GRAZING DISTRICT. Means the specific area within which the public land are administered under Section 3 of the Taylor Grazing Act. Public land outside grazing district boundaries are administered under Section 15 of the Taylor Grazing Act.

GROUND WATER. Subsurface water contained in interconnected pores between soil or rock particles in a zone of saturation. Groundwater includes underground lakes and streams in karst areas.

HABITAT. The place where an animal or plant normally lives during its life cycle often characterized by dominant food, cover, water, and space (e.g., the stream habitat, the forest habitat).

HABITAT MANAGEMENT PLAN (HMP). A written and officially approved plan for a specific geographical area of public land which identifies wildlife habitat and related objectives, establishes the sequence of actions for achieving objectives, and outlines procedures for evaluating accomplishments.

HAZARDOUS MATERIAL. Any substance posing a threat to the health or safety of persons or the environment. These include any materials meeting the Environmental Protection Agency's criteria for ignitability, corrosivity, reactivity or toxicity.

INFORMATION (ARCHAEOLOGY). A level of management applied to cultural resources. Most sites fall into this category and would be studied for the information that could be retrieved from them. The process of extracting information often destroys the site. These sites could be lithic scatters, campsites and other types of sites.

INSTREAM FLOW. The surface stream flow that is necessary to maintain resources such as water quality, fisheries, recreation, and riparian habitat. Usually expressed in terms of minimum flow requirements.

INTERMITTENT STREAM. A stream that does not flow year round but has some association with ground water for surface or subsurface flows.

KARST. A landform where the topography has been formed chiefly by the dissolving of rock. In some cases, the dissolving of rock may be extensive enough to form passages through which an individual could pass. Surface expressions include sinking streams, swalletts, springs and resurgences, and the presence of sinkholes and caves. Surface streams are few, with most of the drainage being underground. These features are important for ground-water recharge of karst systems.

LEASE. An authorization to possess and use public land for a fixed period of time (usually long term). Also, any contract, profit-share arrangement, joint venture, or other agreement issued or approved by the United States Government under a mineral leasing law that authorizes exploration for, extraction of, or removal of oil and gas resources.

LEASE NOTICE. An attachment to an oil and gas lease that transmits information at the time of lease issuance to assist a lessee in submitting acceptable plans of operation, or to assist in administration of leases. A Lease Notice is used to disclose a situation or condition known to exist that could affect lease operations. Lease Notices are not a basis for denial of lease operations.

LEGAL ACCESS. In the context of access to public lands, especially public land tracts that may be adjacent to or surrounded by land of other ownerships, legal access exists when a person can reach a given public land tract without trespassing, such as from a public road or highway, or from another tract of public land. (See "Physical Access.")

LENTIC. Pertaining to static, calm, or slow moving water or aquatic habitats, such as a marsh.

LEK. A specific area (also termed display, gobbling, booming or strutting grounds) where two or more prairie chicken cocks congregate, typically year after year, for courtship displays in early spring, and vary in size from one-eighth acre to several acres.

LOCATABLE MINERALS. Minerals subject to disposal and development through the Mining Law of 1872 (as amended). Includes all "valuable mineral deposits" including metallic and nonmetallic minerals such as gold, lead, barite, fluorspar or high calcium limestone. It also includes uncommon varieties of sand, stone, gravel, cinders, pumice, pumicite and clay. Also included are all valuable minerals that are not excluded under the leasable and salable minerals.

LOTIC. Pertaining to fast-moving water, such as rivers and streams.

MALPAIS. A Spanish word meaning rough country underlain by dark basaltic lava.

MANAGEMENT FRAMEWORK PLAN (MFP). A planning decision document now replaced by RMPs that establishes for a given planning area land use allocations, coordination guidelines for multiple use, and management objectives to be achieved for each class of land use or protection.

MODERN URBAN (U). Areas with recreation opportunities to experience affiliation with individuals and groups are prevalent as in the convenience of sites and opportunities. Experiencing the natural environment and the use of outdoor skills are largely unimportant. One of the six classes of the Recreation Opportunity Spectrum (ROS).

MOIST SOILS MANAGEMENT. Water level manipulation (drawdown) used as a wetland management tool for pastures to optimize food production for waterfowl.

MINERAL MATERIALS. Minerals such as common varieties of sand, stone, gravel, pumice, pumicite and clay which are not obtainable under the mining or leasing laws but which can be obtained under the Materials Act of 1947, as amended. Also known as saleable minerals.

MULTIPLE USE MANAGEMENT. Management of public land and their various resource values so they are used in the combination best meeting the present and future needs of the American people. Such a concept allows for the most judicious use of some or all of the resources over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions. Relative resource values are considered, not necessarily the combination of uses that would give the greatest potential economic return or the greatest unit output.

NATIONAL REGISTER OF HISTORIC PLACES. A list of districts, sites, buildings, structures, and objects significant in American history, architecture, archaeology, and culture.

NATIONAL TRAILS SYSTEM. The National Trails System is composed of four types of trails: (1) national recreation trails; (2) national scenic trails; (3) national historic trails; and (4) connecting or side trails. National recreation trails provide for numerous outdoor recreation activities in a variety of urban, rural, and remote areas. They may be designated by the Secretary of the Interior or by the Secretary of Agriculture where lands administered by that agency are involved.

NONPOINT SOURCE POLLUTION (NPS). The alteration of waters by activities not regulated as point sources, which degrade the quality or adversely affect the biological community inhabiting the waters.

NO SURFACE OCCUPANCY (NSO). A condition of surface use attached to a lease or other authorization applied to minerals exploration and development which prohibits occupancy of only the land surface or to protect other identified resource values.

NOXIOUS WEED. A plant that causes disease or has other adverse effects on the human environment and is, therefore, detrimental to the agriculture and commerce of the United States and public health. Generally, noxious weeds possess one or more of the characteristics of being aggressive and difficult to manage, parasitic, a carrier or host of harmful insects or disease, and being either native, new to, or not common in, the United States. In most cases, however noxious weeds are normative species. Noxious weeds are designated and regulated by various state and Federal laws.

OFF-HIGHWAY VEHICLE (OHV). Any motorized vehicle designed for or capable of cross-country travel on or immediately over land, water, sand, snow, ice, marsh, swampland, or other terrain.

Open: Vehicle travel is permitted in the area (both on and off roads) if the vehicle is operated responsibly in a manner not causing, or unlikely to cause significant, undue damage to or disturbance of the soil, wildlife, wildlife habitat, improvements, cultural, or vegetative resources of other authorized uses of the public land.

Limited: Designated areas and trails where the use of an OHV is subject to restrictions, such as limiting the number on types of vehicles allowed, or dates and times of use (seasonal restrictions); limiting use to designated roads and trails. Combinations of restrictions are possible, such as limiting use to certain types of vehicles during certain times of the year.

Closed: Designated areas, roads, and trails where the use of an OHV is permanently or temporarily prohibited. Emergency use of vehicles is allowed.

ONE HUNDRED-YEAR FLOOD. The flood that will be equaled or exceeded an average of once every one hundred years; i.e. the flood that has a one percent chance of being equaled or exceeded in any given year.

ONE HUNDRED-YEAR FLOODPLAIN. The area adjacent to a stream or body of water that would be inundated at the peak of the one hundred-year flood. The floodplain delineated on Flood Insurance Rate Maps (FIRMS) or Flood Hazard Boundary Maps (FHBMS) published by the Federal Emergency Management Agency will be used for management purposes. When a FIRM or FHBM map is not available for the area of interest, the best available information will be used.

PAYMENT IN LIEU OF TAXES (PILT). Payments to local or state governments based on ownership of Federal land and not directly dependent on production of outputs or receipt sharing.

PERENNIAL STREAM. Surface water normally flows throughout the year except during infrequent years of drought.

PERMIT (GRAZING). A document authorizing use of the public lands within grazing districts under Section 3 of the Taylor Grazing Act for the purpose of grazing livestock.

PERMIT (LAND). A short-term (generally under 3 years), revocable authorization to use public land for specific purposes.

PETROGLYPH. A form of rock art manufactured by incising, scratching, or pecking designs into rock surfaces.

PHREATOPHYTE. A type of plant common to arid regions which has an extensive root system to draw water directly from the water table.

PHYSICAL ACCESS. In the context of access to public land, especially public land tracts that may be adjacent to or surrounded by land of other ownerships, physical access exists when a person can physically reach a given public land tract. The existence of physical access does not always mean that legal access exists. In some cases, taking advantage of physical access may involve trespass. (See "Legal Access.")

PIPELINE. A system of connected lengths of steel or plastic pipe, laid either in the earth or on the surface that is used for transporting petroleum, petroleum products, chemicals, natural gas, or other fluids.

PLAYA. A shallow, nearly level, often saline, dry lake bed. Playas vary considerably in materials, salinity, and hydrologic regime. In general, playas: (1) collect surface runoff in closed basins; (2) are poorly vegetated; (3) are ephemerally flooded; and (4) have a thin surface of nongravelly, fine-textured sediment.

POINT SOURCE POLLUTION. Pollution discharged from any discernible, confined, and discrete conveyance into a water body; e.g., effluent from a pipe. Point source pollution does not include return flow from irrigated agricultural land.

PRECIPITATION. Any or all forms of water particles, liquid or solid, that fall from the atmosphere and reach the ground.

PRESCRIBED FIRE OR BURN. The skillful application of fire to natural fuels under conditions of weather, fuel moisture, soil moisture, etc., that would allow confinement of the fire to a predetermined area and at the same time produce the intensity of heat and rate of spread required to accomplish certain planned benefits to one or more objectives of wildlife management, livestock management, hazard reduction, etc. Its objective is to employ fire scientifically to realize maximum benefits at minimum damage and acceptable cost.

PRESCRIPTION. A written statement defining objectives to be attained as well as temperature, humidity, wind direction and wind speed, fuel moisture content, and soil moisture under which a fire will be allowed to burn, generally expressed as acceptable ranges of the various indices, and the limit of the geographic area to be covered.

PRIMITIVE (P). Areas with recreation opportunities for isolation from the sights and sounds of man, to feel a part of the natural environment, to have a high degree of challenge and risk, and to use outdoor skills. One of the six classes of the Recreation Opportunity Spectrum (ROS).

PUBLIC LAND. Any land and interest in land owned by the United States within the several states and administered by the Secretary of the Interior through the Bureau of the Land Management, without regard to how the United States acquired ownership, except (1) land located on the Outer Continental Shelf; and (2) land held for the benefit of Indians, Aleuts, and Eskimos.

PUBLIC VALUES AND INTERPRETATION (ARCHAEOLOGY). A level of management of cultural sites which contribute to the belief systems and folkways of a cultural group such as locations having religious significance. Public interpretive sites would have qualities that would lend themselves to being utilized as recreation, education, and interpretive areas.

QUARRYING (MINING). The extraction of building stone or other valuable nonmetallic constituent from a surface mine, or quarry.

RANGELAND. Land used for grazing by livestock and big game animals on which the vegetation is dominated by grasses, grass-like plants, forbs, or shrubs.

RANGE IMPROVEMENT. An authorized activity or program on or relating to rangelands which is designed to improve production of forage; range vegetative composition; control patterns of use; provide water; stabilize soil and water conditions; and provide habitat for livestock, wild horses or burros, and wildlife. The term includes, but is not limited to structures, treatment projects, and use of mechanical means to accomplish the desired results.

RAPTOR. A bird of prey, such as an eagle, hawk, or owl.

RECLAMATION. The reconstruction of disturbance by returning the land to a condition approximate or equal to that which existed prior to disturbance, or to a stable and productive condition compatible with the land use plan. The immediate goal of reclamation is to stabilize disturbed areas and protect both disturbed and adjacent undisturbed areas from unnecessary degradation.

RECREATION AND PUBLIC PURPOSES ACT (R&PP). The Act of June 14, 1926, as amended (43 U.S.C. 869, 869-4). Allows the disposal of public land to any state, local, Federal, or political instrumentality or nonprofit organization or any recreational or public purpose, at the discretion of the authorized officer.

RECREATION OPPORTUNITY SPECTRUM (ROS). A continuum used to characterize recreation opportunities in terms of setting, activity, and experience opportunities. Six classes are included: primitive (P), semi-primitive nonmotorized (SPNM), semi-primitive motorized (SPM), roaded natural (RN), rural (R), and modern urban (U). Refer to the individual definitions in this glossary.

RESERVATION. A withdrawal of a permanent nature, dedicated to a specific public purpose.

RESOURCE AREA (RA). The smallest administrative subdivision of a BLM district. A resource area is administered by an area manager.

RESOURCE MANAGEMENT PLAN (RMP). A written land use plan that outlines BLM's decisions and strategies for management of the resources in a particular area. The RMP has been used by the BLM since 1980.

RESTRICTED AREAS. Areas where mitigation such as seasonal restrictions is required to protect resource values.

RIGHT-OF-WAY (ROW). The legal right for use, occupancy, or access across land or water areas for a specified purpose or purposes. Also, the lands covered by such a right. Examples are roads, powerlines, pipelines, water wells, and communication sites. It does not grant an estate of any kind.

RIPARIAN. Situated on or pertaining to the bank of a river, stream, or other body of water. Normally used to refer to the plants of all types that grow rooted in the water table or streams, ponds, springs, etc.

RIPARIAN AREAS. Riparian areas are a form of wetland transition between permanently saturated wetlands and upland areas. These areas exhibit vegetation or physical characteristics reflective of permanent surface or subsurface water influence. Lands along, adjacent to, or contiguous with perennially and intermittently flowing rivers, and streams, glacial potholes, and the shores of lakes and reservoirs with stable water levels are typical riparian areas. Excluded are such sites as ephemeral streams or washes that do not exhibit the presence of vegetation dependent upon free water in the soil.

ROADED NATURAL (RN). Areas with about equal recreation opportunities for affiliation with other user groups and for isolation from sights and sounds of humans. Involves the opportunity to have a high degree of interaction with the natural environment. Challenge and risk opportunities are not very important except in specific challenging activities. The practice of outdoor skills may be important. Opportunities for both motorized and nonmotorized recreation are present. One of the six classes of the Recreation Opportunity Spectrum (ROS).

RURAL (R). Areas with recreation opportunities to experience affiliation with individuals and groups are prevalent as is the convenience of sites and opportunities. These factors are generally more important than the natural setting. Opportunities for wild land challenges, risk taking, and testing of outdoor skills are unimportant, except in activities involving challenge and risk. One of the six classes of the Recreation Opportunity Spectrum (ROS).

LEASABLE MINERALS. See Mineral Materials.

SCOPING PROCESS. An early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action. Scoping may involve public meetings, field interviews with representatives of agencies and interest groups, discussions with resource specialists and managers, written comments in response to news release, direct mailings and articles about the proposed action, and scoping meetings.

SEDIMENT YIELD. A quantitative measure of the total sediment outflow from a watershed over a given period of time at a specified point in the channel. Sediment yield is the difference between the total erosion from slopes, channels, and mass wasting, and the amount of sediment deposited before reaching the specified point in the channel.

SEEPS. Is where ground water percolates to the surface and forms a saturated area.

SEMI-PRIMITIVE MOTORIZED (SPM). Areas with some recreation opportunity for isolation from the sights and sounds of humans, but not as important as for primitive opportunities. Involves the opportunity to have a high degree of interaction with the natural environment, to have moderate challenge and risk, and to use outdoor skills. Provides an explicit opportunity to use motorized equipment while in the area. One of the six classes of the Recreation Opportunity Spectrum (ROS).

SEMI-PRIMITIVE NONMOTORIZED (SPNM). Areas with some recreation opportunity for isolation from the sights and sounds of humans, but not as important as for primitive opportunities. Involves the opportunity to have a high degree of interaction with the natural environment, to have moderate challenge and risk, and to use outdoor skills. One of the six classes of the Recreation Opportunity Spectrum (ROS).

SIGNIFICANT CAVE. A cave located on federal lands that possesses one or more of the following features, characteristics, or values (1) Biota; (2) Cultural; (3) Geologic/Mineralogic/Paleontologic; (4) Hydrologic; (5) Recreational; (6) Educational or Scientific.

SIGNIFICANT KARST. An area in which sinkholes or other features, such as lineaments, provide points of recharge to an aquifer that is the source of water for human, livestock, or wildlife use, or which provides a primary recharge zone for cave-related hydrologic systems.

SINKHOLE. A closed depression formed when the ground surface collapses above voids created by the solution of carbonate or evaporite rocks. Water levels typically fluctuate rapidly in sinkholes because of their close connection to groundwater.

SLOPE. The inclination of the land surface to the horizontal. When expressed as a percent, slope equals the change in elevation divided by the horizontal distance, with the result multiplied by 100 percent. Thus, a slope of 20 percent is a change in elevation of 20 feet for every 100 feet horizontally.

SOLID LEASABLE MINERALS. The chlorides, sulfates, carbonates, borates, silicates or nitrates of potassium or sodium and related products; sulphur in the States of Louisiana and New Mexico and on all acquired lands; phosphate, including associated and related minerals; asphalt in certain lands in Oklahoma; and gilsonite (including all vein-type solid hydrocarbons).

SPECIAL EMPHASIS AREAS. An area containing one or a combination of unique resources or values that receive more intensive management (e.g., ACECS, WSAS, and SRMAS.)

SPECIAL HABITAT FEATURE. A specific component of a habitat site requiring individual consideration, including geological anomalies (cliffs), aquatic situations (seeps), or manmade structures (windmill). A feature may be present in the habitat site because of animal use (booming grounds). Special habitat features may affect wildlife positively or negatively.

SPECIAL RECREATION MANAGEMENT AREA (SRMA). Areas requiring explicit recreation management to achieve BLM's recreation objectives and to provide specific recreation opportunities. SRMAs are listed in this plan which also define SRMA management objectives. BLM's recreation investments are concentrated in these areas.

SPECIAL STATUS SPECIES. Wildlife and plant species either federally listed or proposed for listing as endangered or threatened, state-listed species, or BLM-determined priority species (sensitive species).

SPRING. Where water is discharged from a fixed point and the flow usually forms a small channel.

STATE APPROPRIATIVE WATER RIGHT. A water right licensed by the New Mexico State Engineer once proof of beneficial use is established.

STATE HISTORIC PRESERVATION OFFICER (SHPO). A position within state governments responsible for coordinating state participation in the implementation of the National Historic Preservation Act. This officer serves as an assistant and consultant when identifying cultural properties, assessing effects to them, and considering alternatives to avoid or reduce those effects.

STIPULATION. A requirement, usually dealing with protection of the environment that is made a part of a lease, grant, or other authorizing document. In the case of oil and gas leases, a provision that modifies standard lease rights and is attached to and made a part of the lease. Also, refer to "CONDITION OF APPROVAL" in the Glossary. The following represent the major stipulations on BLM land:

No Surface Occupancy Stipulation (NSO): A stipulation in which use or occupancy of the land surface for fluid mineral exploration or development is prohibited to protect identified resource values.

Timing Limitation Stipulation: A stipulation which prohibits surface use during specified time periods to protect identified resource values. This stipulation does not apply to the operation and maintenance of production facilities unless the findings of analysis demonstrate the continued need for such mitigation and that less stringent, project specific mitigation measures would be insufficient.

Controlled Surface Use Stipulation (CSU): A stipulation in which use and occupancy is allowed (unless restricted by another stipulation), but identified resources values require special operational constraints that may modify the lease rights.

STRUTTING GROUND. Synonymous with Lek.

SUITABILITY. The adaptability of an area to grazing by livestock or wildlife.

SUITABLE RANGE. Rangeland that is accessible to livestock, which can be grazed on a sustained yield basis without damaging the resource.

SURFACE DISTURBANCE. Any action that removal of soil or vegetation and expose the mineral soil to erosive processes. Used in the literal context of actual, physical disturbance and movement or removal of the land surface and vegetation.

SURFACE WATER. All water located at the surface of the land, such as streams, rivers, and lakes.

THREATENED SPECIES (Federal). Any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. Whether a species is threatened or endangered is determined by the following factors: (1) present or threatened destruction, modification, or curtailment of its habitat or range; (2) over utilization for commercial, sporting, scientific, or educational purposes; (3) disease or predation; (4) inadequacy of existing regulatory mechanisms; or (5) other natural or human-made factors. Also, see "Endangered Species (Federal)" in the Glossary.

THREATENED SPECIES (State). Any species or subspecies that is likely to become endangered within the foreseeable future throughout all or a significant portion of its range in New Mexico. Also, see "Endangered Species (State)" in the Glossary.

TURBIDITY. A condition in water caused by the presence of suspended matter which results in the scattering and absorption of light. Generally, a measure of fine suspended matter in water.

VALUE. As used in the RMP/EIS, a value refers to a natural resource or characteristic of a natural resource that is not usually a commodity or is difficult to quantify in terms of a unit of measurement. Examples of values in this context are listed in FLPMA and include scientific, scenic, air and atmospheric, historical, archeological and ecological resources.

VEGETATION RESOURCE CONDITION OBJECTIVES (VRCO). In general terms the kinds, types, amounts or appearance of vegetation that will provide the goods, values, and services needed on a geographic area.

VEGETATION TREATMENTS. Methods used to manage the growth and spread of vegetation. A vegetative management practice can either be a direct management of the vegetation itself, for example prescribed fire or indirect management like a change in the number of livestock utilizing the vegetation, or a change in the time frames when livestock are utilizing the vegetation.

VIABILITY INDEX. A mathematical model used to predict the suitability of a pasture for pronghorn populations using variables such as pasture size, ruggedness, number of fall forb species and anticipated fall sheep stocking rate. See Appendix 12 of the Draft Roswell RMP/EIS.

VISUAL RESOURCES MANAGEMENT (VRM). The inventory and planning actions taken to identify visual values and to establish objectives for managing those values; and the management actions taken to achieve the visual management objectives.

VISUAL RESOURCE MANAGEMENT (VRM) CLASSES. VRM Classes are based on relative visual ratings of inventoried lands. Each class describes the different degree of modification allowed to the basic elements of the landscape. The following are the minimum management objective for each class.

Class 1: Natural ecological changes and very limited management activity are allowed. Any contrast created within the characteristic landscape must not attract attention. This classification is applied to Visual Areas of Critical Environmental Concern, wilderness areas, wild and scenic rivers, and other similar situations.

Class II: Changes in any of the basic elements (form, line, color, texture) caused by a management activity should not be evident in the landscape. A contrast may be seen but should not attract attention.

Class III: Contrasts to the basic elements caused by a management activity may be evident and begin to attract attention in the landscape. The changes, however, should remain subordinate in the existing landscape.

Class IV: Contrasts may attract attention and be a dominant feature in the landscape in terms of scale. However, the changes should repeat the basic elements of the landscape.

Rehabilitation Area: Change is needed or change may add acceptable visual variety to an area. This class applies to areas where the naturalistic character has been disturbed to a point where rehabilitation is needed to bring it back into character with the surrounding landscape. This class would apply to areas identified in the scenic evaluation where the quality class has been reduced because of unacceptable cultural modification. The contrast is inharmonious with the characteristic landscape. It may also be applied to areas that have the potential for enhancement; i.e., add acceptable visual variety to an area or site. It should be considered an interim or short term classification until one of the other VRM class objectives can be reached through rehabilitation or enhancement. The desired visual resource management class should be identified.

WATER QUALITY STANDARD. Regulations which specify designated uses for surface waters of the state, and water quality criteria to protect those uses. Standards are specified by the Water Quality Control Commission, in accordance with Section 303 of the Clean Water Act.

WETLANDS. Areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support and which, under normal circumstances, do support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands include marshes, shallows, swamps, lake shores, bogs, muskegs, wet meadows, estuaries, and riparian areas.

WILDERNESS. The definition contained in Section 2(c) of the Wilderness Act of 1964 is as follows: "A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain." Wilderness is an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least 5,000 acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.

WILDERNESS AREA (WA). An area formally designated by Congress as part of the National Wilderness Preservation System.

WILDERNESS STUDY AREA (WSA). A roadless area which has been found to have wilderness characteristics.

WILDERNESS CHARACTERISTICS. Those characteristics of wilderness as described in Section 2(c) of the Wilderness Act. These include size, naturalness, solitude, primitive and unconfined type of recreation, and supplemental values.

WILDLIFE. Includes all species of animals, birds, mollusks, crustaceans, amphibians, reptiles, or their progeny or eggs which, whether raised in captivity or not, are normally found in a wild state. Feral horses and burrows are excluded.

WITHDRAWAL. Removal or withholding of public land, by statute or secretarial order, from operation of some or all of the public land laws. A mineral withdrawal is the closing of an area to mineral location and development activities. A mineral withdrawal includes public lands potentially valuable for solid leasable minerals, precluding the disposal of the lands except with a mineral reservation clause unless the lands are found not to contain a valuable deposit of minerals.

Chapter 9

CHAPTER 9

LIST OF PREPARERS

| NAME | RMPA ROLE/RESPONSIBILITY | EDUCATION | EXPERIENCE |
|-----------------------------------------------|-------------------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| PECOS DISTRICT/ROSWELL FIELD OFFICE | | | |
| Howard Parman | Team Leader, Planning Coordinator | BS Forestry, Oklahoma State University | 27 yrs with BLM in Forestry, Public Affairs and Planning |
| Janet Graham | GIS | | |
| Pat Flanary | Cultural Resources | BA Anthropology, Southern Methodist University | 16 years with BLM in Archeology |
| Rand French | Wildlife/T&E | BS Wildlife Management, 1987 | 16 years with BLM in wildlife and Range |
| Jerry Dutchover | Solid Minerals | BS Geology, New Mexico State University | 23 years with BLM in Fluid and Solid Minerals |
| Al Collar | Fluid Minerals/Salable Minerals | BS Geology Arkansas Tech Univ | 20 years with BLM in Fluid Minerals, Solid Minerals, HazMat, Safety and IT. 2 years with DoD in HazMat. |
| Bill Murry | Recreation/Visual Resources | 2yrs Colorado Northwestern Community College | 8 yrs Park Manager, Outdoor Recreation Planner for 2 years. |
| Michael McGee | Soil, Water, Air | B.S. Geology, New Mexico State University, 1991 | 12 yrs with BLM in Fluid Minerals, Solid Minerals, and Soil/Water/Air |
| Kathleen Mulkey | Public Affairs/Outreach | | |
| Doug Burger | Pecos District Manager | BS in wildlife/range Texas Tech | 26 yrs with BLM, 17 yrs in management |
| CARLSBAD FIELD OFFICE | | | |
| Steve Daly | Range Management Vegetation Noxious Weeds | B.S.- Wildlife Science New Mexico State University, 1979 | BLM - 23 years in Range and Soil/Water/Air |
| Eric Holborn | Lands/Access | B.S.- Natural Resources Management, Colorado State University, 1997 | BLM- 2½ years- Realty Specialist |
| LAS CRUCES FIELD OFFICE/PECOS DISTRICT | | | |
| Rena Gutierrez | Writer/Editor (Zone) | B.A., Journalism & Mass Communications, New Mexico State University, 1978 | BLM – 26 years |
| NEW MEXICO STATE OFFICE | | | |
| Greg Homan | GIS | | |
| Signa Larralde | Planning & Environmental Coordinator | | |

Chapter 10

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Appendix A

APPENDIX A

INTERIM MANAGEMENT

Goal - Maintain existing habitat and management options in the shinnery oak-sand dune habitat complex until the Resource Management Plan Amendment (RMPA) for special status species is approved. Interim management would be applied in what is now the Planning Area for the RMP Amendment.

Objectives for Interim Management

- Maintain existing habitat for the lesser prairie chicken and sand dune lizard and preclude degradation of suitable habitat until planning process addresses the issue.
- Support strategies that conserve the lesser prairie chicken and sand dune lizard and assist in precluding the need for listing either species as threatened or endangered.
- Leave the options open for recovery of both species.
- Involve interested parties and stakeholders using the 4 C's.
- Work within existing authorities and plans.

Maps 3-7 and 3-8 show the Prairie Chicken Core Area and Lizard Habitat, respectively.

Mineral Leasing and Development within the Roswell Field Office & Carlsbad Field Office Planning Area

This will be a phased approach into evaluating oil and gas leasing and development within the LPC and SDL habitat areas. Careful consideration of mineral leasing and development needs to be taken during the interim to avoid making land management decisions that may adversely affect special status species. The following are conditions and criteria for mineral leasing and development within the Planning Area.

Sand Dune Lizard

Regardless of the Zones described below, deferring new leasing of Federal minerals will occur for all Management Zones that have occupied or suitable lizard habitat. Deferral of new leasing would result in the protection of critical SDL habitat until further analysis can be made through the plan amendment process.

MANAGEMENT ZONES: ZONE 1 - DEFER LEASING AND PLAN OF DEVELOPMENT (POD) FOR EXISTING LEASES.

Defer New Leasing: This Zone includes the Roswell Core Area, the New Mexico Department of Game and Fish (NMDGF) lesser prairie chicken management areas and a 1.5-mile radius around lesser prairie chicken booming grounds outside the Roswell Core and NMDGF lesser prairie chicken management areas. This will include a large portion of occupied and suitable sand dune lizard habitat currently having minimal oil and gas development on existing leases. Exceptions to the defer-new-leasing prescription may be considered on case-by case basis for unitization and drainage purposes, or for parcels that are insignificant in size. Granting exceptions will require a thorough review of habitat suitability, lek locations and cumulative impacts that would potentially occur if the exception is granted.

Rationale: Leasing and subsequent development would significantly impact the suitability of the area by direct disturbance to booming grounds, fragmentation of nesting habitat and losing the connectivity of important habitats on the landscape. Deferral of new leasing would result in the protection of critical SDL habitat until further analysis can be made through the plan amendment process.

Plan of Development (POD) for existing leases: This would be required before the approval of the next well to be drilled within an existing lease. The POD would require disclosure of all future well locations, well infrastructure (tanks, compressors, power lines/poles, etc), and rights-of-ways that would access future wells. To the extent possible, a 1.5 mile buffer zone where drilling will be excluded (buffer zone) will be utilized around active leks (those active within the last 3 years) to provide interim resource protection in conjunction with the current timing stipulation.

Rationale: Lease holders have valid rights to develop the lease; however, the BLM can require a POD for orderly development of leases and to minimize surface disturbance and fragmentation to protect occupied and suitable lesser prairie chicken/sand dune lizard habitat.

MANAGEMENT ZONES: ZONE 2 - NEW LEASING WITH A NO SURFACE OCCUPANCY (NSO) STIPULATION AND POD FOR EXISTING LEASES

See Map A-1 for location.

Zone 2 contains lesser prairie chicken/sand dune lizard occupied and suitable habitat that is mostly leased with lighter amounts of development. The Zone 2 area on the Chavez-Eddy County line contains unleased parcels that are critical for the development of a corridor to connect the major core areas to the north and to the southern historic range. Zone 2 areas are also very significant in maintaining the narrow band of occupied habitat for the sand dune lizard. This narrow band is due to the natural landscape pattern and is approximately 5-miles wide. New leasing with NSO stipulation would be applied on those lands associated with lesser prairie chicken/sand dune lizard habitat core areas in the Roswell and Carlsbad Field Offices. After completion of the RMPA, the NSO stipulation may be dropped, modified or carried forward. A notice explaining these procedures will be attached to the nominated lease parcels at the time of leasing.

Rationale: Most of the Federal mineral reserves in this area should be accessible by current adjacent leases. Adjacent leased lands will generally have either some level of existing oil & gas development or contain lower quality lesser prairie chicken/sand dune lizard habitat. The NSO requirement would protect occupied and suitable habitat while allowing development from adjacent existing leases.

The POD: A POD for existing leases would be required before the approval of the next well to be drilled within an existing lease. The POD would require disclosure of all potential well locations, well infrastructure (tanks, compressors, power lines/poles, etc), and rights-of-ways that would access future wells. To the extent possible, a buffer zone around active leks and the current timing stipulation will be utilized to provide interim resource protection.

Rationale: Lease holders have valid rights to develop the lease; however, the BLM can require a POD for orderly development to protect occupied and suitable lesser prairie chicken/sand dune lizard habitat.

MANAGEMENT ZONES: ZONE 3 - REQUIRE POD FOR NEW AND EXISTING LEASES.

See Map A-1 for locations.

Zone 3 contains isolated blocks of unfragmented suitable lesser prairie chicken/sand dune lizard habitat that have been leased and for the most part developed. Within RFO, several of the Zone 3 areas lie within the northern extent of the Carlsbad Field Office LPC area and are key management areas for future expansion and connectivity of habitats and population interchange. Within the Carlsbad Field Office, these areas include habitat within a 1.5-mile radius of known historic lek sites and will also provide management consideration around Zone 2 areas described earlier. These areas will have the noise and timing stipulation applied to oil and gas activities and other potential disturbance along with the Plan of Development. Zone 3 also includes areas that contain habitat parameters that are needed for the life cycle of the species (e.g., edge) and with habitat manipulation could become suitable habitat. Also included in this zone are some areas with Federal minerals under private or state surface where management of other uses is not controlled by the BLM.

The POD: A POD for existing leases would be required in appropriate habitat areas before the approval of the next well to be drilled within an existing lease. The POD would require disclosure of all potential well locations, well infrastructure (tanks, compressors, power lines/poles, etc), and rights-of-ways that would access future wells. To the extent possible, a buffer zone around active leks and the current timing stipulation will be utilized to provide interim resource protection.

Rationale: Federal minerals in this zone are leased with only a few small, scattered tracts of unleased Federal minerals. Lease holders have valid rights to develop the lease; however, the BLM can require a POD for orderly development to protect suitable lesser prairie chicken habitat.

MANAGEMENT ZONES: ZONE 4 - ISSUE NEW LEASES WITH EXISTING RMP STIPULATIONS AND USE THE EXISTING CONDITIONS OF APPROVAL FOR DEVELOPMENT OF EXISTING LEASES.

These areas are generally on the outer edge of the range of these two species. (See map for locations). Some of the areas are outside the proposed planning area boundary but are still within the timing stipulation boundary that may require some level of management until habitat evaluations and decision are made in the upcoming plan amendment.

Rationale: This area is on the outer edge of the range of these two species. (See map for locations). New leases would include lesser prairie chicken/sand dune lizard stipulations approved in the 1997 Roswell RMP and Carlsbad RMPA where appropriate. Currently, there are areas outside the proposed planning area boundary but are still within the timing stipulation boundary that may require some level of management until habitat evaluations and decisions are made in the upcoming plan amendment.

Other Land Uses

Livestock grazing: Within the entire RMPA planning area livestock grazing will be authorized under the grazing permit renewal process. Any changes to current livestock management will be based on vegetative monitoring, lesser prairie chicken suitability monitoring (Robel),

rangeland health assessments for Standards and Guidelines and in consultation with the permittees.

Off-Highway-Vehicles (OHV): Formal designations within the Roswell portion of the planning area include closed to OHV use in the Mathers Research Natural Area and the Mescalero Sands ACEC; open to OHV use in the Mescalero Sands North Dune OHV Area; and OHV use limited to existing roads and trails in the rest of the planning area within the Roswell Field Office. Pending formal designation through the plan amendment process, OHV use will be limited to limited to existing roads and trails within Roswell Field Office except for the closed areas identified above.

Under Interim Management, all land in the Planning Area within the Carlsbad Field Office that is currently designated as open to OHV use will be temporarily designated as limited to existing roads, trails, or ways. Exceptions in Carlsbad Field Office are the Alkali Lake and Hackberry Lake Intensive OHV areas which will continue to be designated as open to OHV use.

Reclamation: Apply the best management practices (BMPs) being developed in the Carlsbad Field Office/Roswell Field Office.

BEST MANAGEMENT PRACTICES

A description of best management practices (BMPs) for fluid minerals can be found at the BLM web site: www.blm.gov/nhp/300/wo310/O&G/Ops/operations.html.

In addition to these BMPs, the Roswell and Carlsbad Field Offices developed the following BMPs for reclamation:

1. Site development – the smaller the area of surface disturbance, the less reclamation effort will be needed. Start with the end result in mind.

- Minimize well pad sized by leveling or clearing only what is needed for the rig, pits, and tanks.
- Build the shortest road possible utilizing the existing road network.
- Road surfacing should be limited to soils and topography that require surfacing to reduce soil erosion. As a general rule, if spur roads require surfacing, then the minimum six-inch compacted layer of surface material should be applied.
- Reserve pits should be constructed so that upon completion of drilling operations, the dried pit contents will be a minimum of three feet below ground level. Should these contents not meet the three-foot minimum depth requirement, the contents shall be removed and disposed of at an authorized location. The rationale is that a deeper layer of soil/dirt over the pit liner allows a greater chance of establishing plants on the site.
- Whenever possible, pipelines should parallel existing roads.
- Clearing vegetation for pipelines should be kept to a minimum. In some locations, only trenching may be necessary.

2. Post-well completion

- Reclaim any disturbed areas outside the radius of the guy line anchors and/or any lands not necessary for well operations using the methods detailed in well abandonment. This area to be reclaimed would be delineated by BLM's authorized officer.

3. Well abandonment - The idea is to prepare a site (any time of the year), then applying seed and fertilizer just before seasonal rains.

- Where practical, remove caliche surfacing from pads and roads prior to ripping. Roswell Field Office recognizes there are specific sites and situations in which the caliche is so degraded that removal would not be efficient or very beneficial. There are several options of what to do with the caliche including returning the caliche to pits, applying the caliche to maintain main roads or stockpiling material for future use.
- To minimize soil compaction, pads and roads should be ripped to a depth of between 18 to 24 inches, using either a winged ripper or ripped in two directions perpendicular to each other.
- After ripping, leave the site rough or fallow for one growing season. This should allow breakdown of the clods, and allow other soil particles as well as seeds to blow into the ripped area.
- Fertilizer will assist the seeds in growing and give better plant vigor once they start to grow for more success. Chemical fertilizers have provided mixed results, especially in drought conditions. Organic treatments, such as nutrient fixing bacteria or sterilized manure may be more effective.
- Seed and fertilize the ripped area within a prescribed window to allow the best chance of germination and establishment. Depending on the soil type and depth, the operator would be required to either broadcast seed or use a seed drill to seed the area. The site should be lightly watered after seeding and packed with an imprinter. This allows for the soil to crust over which should assist in retaining seed and minimize loss due to winds.
- Temporarily fencing an area, usually the pad, to exclude livestock, other grazers, and physical impacts to the area would be required until plants have established themselves. The type or kind of fences would be approved by BLM.
- Mulching and irrigating a site is recommended but not required and would be conducted at the operator's discretion.

4. Measuring reclamation success – our reclamation goal is to approach the vegetation composition of the undisturbed surrounding area.

- Reclamation (efforts and success) would meet the satisfaction of the authorized officer before the operator would be released from reclamation responsibilities.
- Roswell Field Office will use the Desired Plant Communities as described in the Roswell RMP for determining seed mixtures. The DPCs also include a range of plants by percent composition that will be used to determine satisfactory reclamation.

- Roswell Field Office acknowledges that there will always be some amount of subjectivity regarding successful reclamation. Roswell Field Office, however, will include scientifically acceptable sampling methods, such as pace transects, when making decisions quantifying reclamation success.

MAPS

MAP SECTION

| | | |
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| 2-2 | | Active Oil and Gas Wells |
| 2-3 | | Secretary’s Order for the Potash Area – WIPP |
| 2-4 | | Allotment Boundaries |
| 2-5 | ..... | Visual Resource Management Classes |
| 3-1 | ..... | ROW Exclusion Areas/Avoidance Areas |
| 3-2 | ..... | Special Oil and Gas Designations |
| 3-3 | ..... | Special Solid Minerals Designations |
| 3-4 | ..... | Vegetative Treatments |
| 3-5 | ..... | Off-Highway Vehicle Designations |
| 3-6 | ..... | Special Designations |
| 3-7 | ..... | Prairie Chicken Core Area |
| 3-8 | ..... | Lizard Habitat |
| 4-1 | ..... | Wind Energy Potential |
| A-1 | ..... | Interim Management Zones |